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ABSTRACT

This handbook, which suggests resources for curriculum development, is designed to assist schools in meeting the curriculum requirements of Vermont's Public School Approval and to be a resource for local districts developing curriculum. Sections are represented on: (1) establishing the necessity for curriculum revision and/or development; (2) information collection for needs assessment; (3) curriculum development models; (4) planning; (5) pre-writing considerations; (6) essential components of a written curriculum guide; (7) considerations of special needs students; (8) curriculum implementation; and (9) program evaluation. Appendixes are attached concerning: (1) frameworks as aids to curriculum development; (2) public school approval mandate concerning curriculum development; (3) needs assessment instruments; (4) plan for inservice; (5) curriculum materials evaluation checklist; (6) questions to consider in planning to map a curriculum; (7) sample philosophies; (8) systemwide organization for curriculum development; and (9) master schedule for curriculum development. Frameworks are included for the following subjects: English/language arts; mathematics; science; social studies; art; music; health; and physical education. (CB)

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A GUIDE TO CURRICULUM DEVELOPMENT

Vermont Department of Education

Educational Resource Center

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This handbook is designed to

- be a resource for local districts developing curriculum; it is not a curriculum guide
- assist schools in meeting the curriculum requirements of Vermont's Public School Approval
- suggest resources and research about curriculum development.

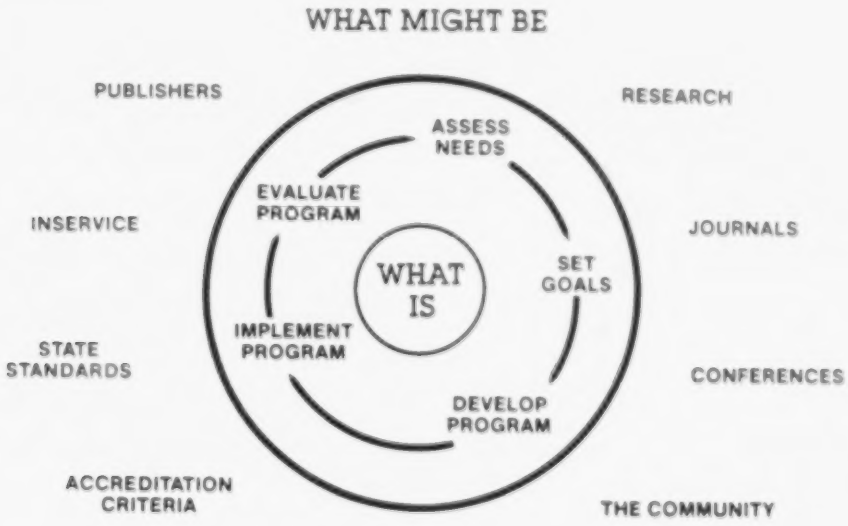
The suggestions in this handbook coordinate with the process outlined in the SADIE Chart and with the Frameworks, and is designed to facilitate the development of a scope and sequence for specific subjects such as social studies or science.

Foreword

Curriculum Change

Making It Happen

There are two key aspects of curriculum development, the cyclical nature of ongoing efforts and the active participation of everyone in the school community. The diagram illustrates the flow of activities involved and how they relate to the curriculum that is in place and what might or should be. The following paragraphs describe the elements of the diagram and the roles of the various participants.



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WHAT IS: Before trying to change something, it is important to have a good idea of what is actually in place and being used. In the case of curriculum this may vary across disciplines and grades, and even across individual classrooms. Content, methods and materials are the main components that should be considered, but other things have effects as well like the state of the professional staff development, the support services, the interdisciplinary and district coordination, the school climate, the administrative and community support, the characteristics of the student population, and recent curriculum changes.

The statement of the school philosophy should be included in **WHAT IS.** If this statement is not current or accurate, then a revision is needed. A clear acceptable statement of philosophy promotes good teamwork. BELIEFS ABOUT CURRICULUM, TEACHING AND LEARNING ARE CENTRAL TO ANY PROCESS OF CURRICULUM CHANGE.

The nature of **WHAT IS** must be carefully considered throughout the curriculum development cycle. An organized needs assessment will focus on what is currently in place, but it is also important to relate goal setting, program development and implementation activities to a realistic understanding of **WHAT IS.** Idealistic proposals that do not take into account the current situation will create more frustration than progress.

WHAT MIGHT BE: Professional educators and other interested people are continually looking at what's "out there". Textbook companies advertise their latest products while professional journals and conferences promote the sharing of ideas and successful practices. Research reports, although not always easy to relate to practical applications, must be considered along with less formal evidence to support proposed changes. Inservice and other professional development opportunities provide insights to possible curriculum improvements. Community resources, while less obvious, can offer a wide range of possibilities such as field trips, visiting experts and practitioners, volunteer assistants and support groups. State standards for school approval and criteria for accreditation by the New England Association of Schools and Colleges specify what must be in place.

ASSESS NEEDS: The continuous assessment of both what is in place and what is available that might be used to improve the curriculum will provide a strong background for effective change. A specific, organized assessment should be the first step in any effort to modify a program. Textbook evaluations, with observations from students and parents as well as teachers, will provide one piece of information. Curriculum mapping will tell just what content is actually covered and how, while test scores and promotion and enrollment figures will give an indication of student achievement. Parents, students and others in the community should be given opportunities to critique the current conditions and comment on possibilities for change. Guides and other resources from Vermont and other states should be reviewed along with articles and conference reports from professional organizations.

While everyone in the school community cannot be totally involved in every phase of the needs assessment, it is equally inappropriate for one person to do it alone. Specific tasks can be done by individuals; but representatives of teachers, administrators, students and the community should have a role. As a result there should be a statement of prioritized needs arrived at by group consensus.

SET GOALS: In a group effort the goals must be consciously arrived at, clearly stated and understood by all concerned. Common goals will make cooperative efforts possible and give the group a sense of purpose and direction.

The process of goal setting will evolve naturally as part of the assessment activities, particularly as people investigate what might be possible. Although a list of needs might be rephrased to look like goals, there are differences. Needs tend to be absolute, as "we need five sets of manipulative materials and inservice instruction for their use." Goals must be realistic and should have some timeline, as "we will purchase one set of manipulative materials each year for five years and provide inservice instruction for their use during the first year." Needs should be prioritized according to the anticipated effect they will have, while goals should consider the possibilities for attainment. Impossible goals will stifle any attempts at change.

DEVELOP PROGRAM: Once goals have been set, the task of actually developing a program can get started. Current practices should be reviewed to determine what is effective as well as what should be changed. Resources must be analyzed, including humans, time, funds, facilities and materials. Leadership for this phase is crucial, and someone should be officially given this responsibility. A team of people working with this leader will carry out most of the work, but there should be opportunities for all members of the school community to keep abreast of developments and provide reactions.

As mentioned earlier, a statement of philosophy that is understood and accepted by all concerned should be in place. If not, then the development or revision of a philosophy might well be undertaken. Other examples of program development range from writing a district curriculum guide to modifying a single grade's use of an instructional television series.

IMPLEMENT PROGRAM: If those who will actually be expected to carry out the proposed changes have been involved in planning from the start, implementation should take place in an orderly manner. Expectations can be severely jeopardized, however, by factors outside the control of the people who did the planning. For instance, the proposed changes may have included the opportunity for the teachers involved to receive instruction in the use of new materials and/or methods, and funds for this part of the program might subsequently be diverted. Only careful attention to maintaining open lines of communication among all those in the school community can prevent such problems.

The group that developed the program should remain active during the implementation phase, monitoring progress and assisting with problems. Timelines may have to be adjusted and other modifications made. It is also important to keep up the momentum and forestall any backsliding.

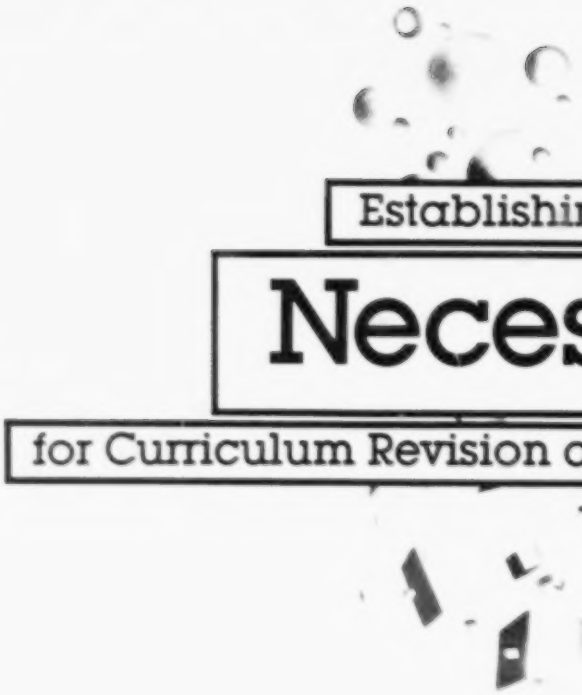
EVALUATE PROGRAM: At some point those involved in the planning and implementation of a new program will feel that the job is done. Their job may be, but the job of curriculum development is never "done." Any new program should have a reasonable amount of time to become fully implemented, but at some time the program should be carefully evaluated to determine if it has accomplished the goals that were set earlier. Some new people who were not immediately or directly involved with development and implementation should review the goals and evaluate the degree to which the program should be left as is, referred to the developers for modification or revision, or even scrapped.

RECYCLE: The evaluation of the new program may well uncover needs that were not noticed earlier or may indicate a change in the priority of needs. Even if the new program is found to be successful in meeting the established goals, the work of the evaluators can provide a basis for a new organized assessment of the curriculum. In any event the curriculum should be carefully analyzed on a periodic basis using all the information available to describe accurately what is currently in place and what might or should be.

This model for curriculum development may seem more formal or structured than need be. Small schools may very well maintain open lines of communication which reduce the need for establishing committees and leaders for each phase discussed here. Nevertheless, the concepts of each stage need to be addressed, however informally. Community and student involvement in appropriate ways is just as important in small schools as it is in large union schools. Teacher involvement is critical no matter what else takes place since their actions in the classroom will be the ultimate test of any curriculum change.

The State Department of Education intends to provide you with as much assistance as possible as you develop a curriculum in various areas. This document, A Guide to Curriculum Development, coupled with the SADIE Chart and the curriculum Frameworks, will serve as tools for successful curriculum development. Other resources may include state department curriculum consultants, RAP agents, school standards and items in the Basic Competencies.

The keys to successful curriculum development are first ownership, which is developed by administrators, teachers, and community working together toward a common goal, and second the development of a research-based practical product.



Establishing the Necessity for Curriculum Revision and/or Development

Curriculum work is initiated for many reasons. In recent years schools have responded to community pressure to develop computer technology topics and courses. The arrival of new administrators can function as an "external vector" which leads to curriculum inquiry and revision. Another cause is a change in state education policy. Some believe that curriculum development is cyclic, that it must be examined and modified as the data suggest on a regular basis. Whatever the circumstances, curriculum periodically becomes the focus of attention. We are asked to invest time and energies in this important professional task.

Needs Checklist

	YES	NO
1. Is there an existing curriculum guide?	____	____
2. Does current research support the guide?	____	____
3. Is the existing curriculum guide used?	____	____
4. Is the material that is currently taught consistent with the curriculum guide?	____	____
5. Are student test scores as high as desired?	____	____
6. Is student performance accepted as adequate by school and community?	____	____
7. Are teachers satisfied with the material that is taught?	____	____
8. Does the existing curriculum meet Vermont Public School Approval Standards?	____	____

The answer NO to any of the above questions indicates a need to examine the curriculum guide.

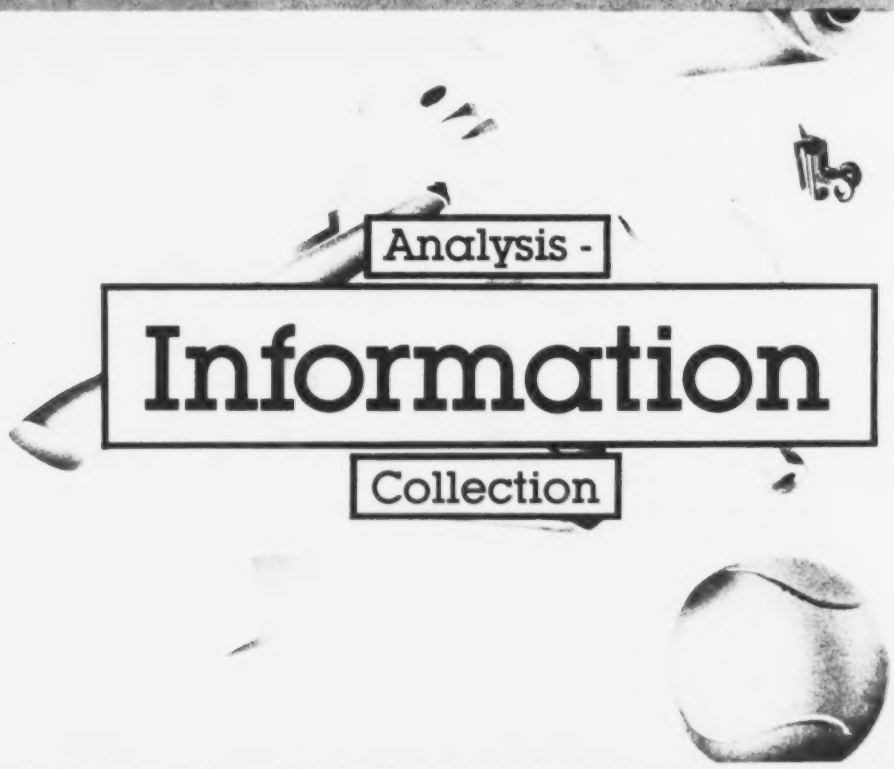
Having established a clear and immediate need for curriculum assessment and revision, the next step is to create a "Task Force," a committee to do the analyzing of the current situation and the planning of the changes.

The composition and size of this task force is important since the *task force should be representative of those responsible for and effected by curriculum implementation.* While there are practical limits to the composition and size of a task force, "Yes" responses to the following items should be sought.

___ Does it include professionals who will work with the new curriculum on a regular basis?
___ Does it include professionals who are committed to the task and have time to work on it to completion?
___ Does it include teachers in lower and upper grades to assure continuity of perspective?
___ Does it include representatives from supporting subject areas when that area seems related to the task ahead?
___ Are the people selected willing to serve because they believe the work is important and that they have something to contribute?
___ Is an administrative person assigned to be a regular member of the group?
___ If resources are available, are outside consultants asked to work with the task force in some or all phases of its work?

A number of mechanisms are desirable to support the task force's work. While it may not be possible for all of these arrangements to be made, they nevertheless represent targets for attainment:

- The person asked to lead the committee should have interest and experience in managing the curriculum development process. This means a willingness to work through the often challenging group dynamics that are characteristic of such work.
- Secretarial support should be available for recording minutes or accomplishments at each stage of the committee's work. This includes timely reproduction and dissemination.
- Participants should, to the extent possible, have adjustments made in their other professional responsibilities.
- Released time for meetings, including securing of substitutes, leads to a more positive committee work environment.
- Budgeting for travel to other classrooms and the securing of other resources such as RAP agents should exist.
- Consultants from higher education, State Department of Education, and other states should be invited to present perspectives as appropriate.
- A regular schedule of meetings at reasonable intervals enables participants to plan and complete their committee work within agreed-upon timelines.
- A committee should expect a clear charge from administration at or before its initial meeting and be provided an opportunity to seek clarification before proceeding with the work.



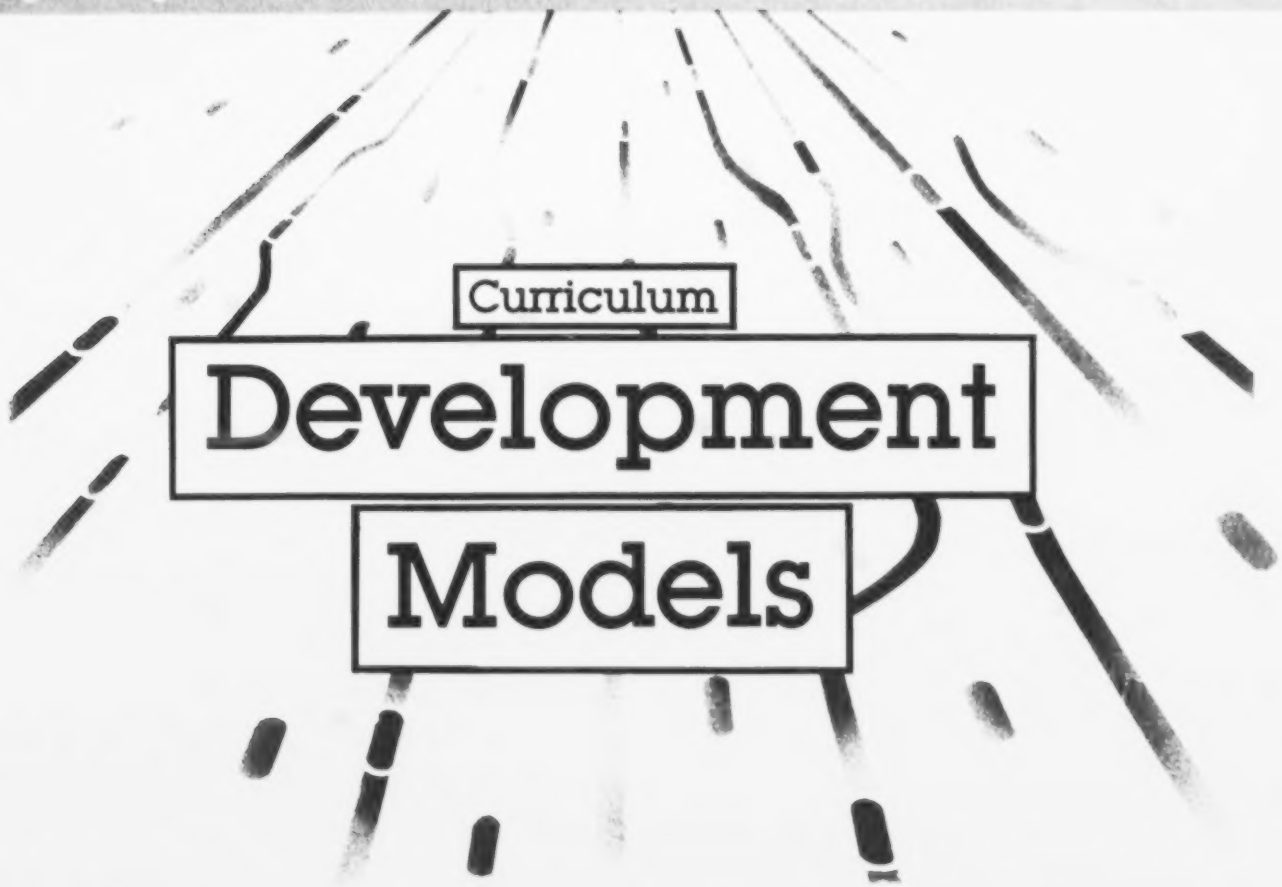
Needs Assessment is a public process where concerned parties contribute input to the curriculum process. The purpose of a needs assessment is to answer the questions:

- What educational results should the school seek to achieve?
- What educational experiences can be provided that are likely to attain these results?
- How can these educational experiences be effectively organized?
- How can we determine whether these results are being attained?

A partial list of assessment instruments is:

- A review of the philosophy statement.
- Interviews/surveys of students, teachers, administrators and parents. See Appendix C for examples of Needs Assessment Surveys.
- A teacher inservice session devoted to brainstorming curriculum needs. See Appendix D for details.
- An analysis of the results of student performance on standardized tests.
- Observations of classroom activities and other school functions.
- A program evaluation. See Appendix E for an example of a Curriculum Materials Evaluation checklist.
- A Curriculum Mapping

Of particular value as an assessment instrument is curriculum mapping which is an analysis of actual classroom instruction. It is a method of capturing and of systematizing what is actually being taught and thereby revealing the current curriculum. This method can be a useful tool for articulating the curriculum, raising people's awareness level, and taking time to record the unwritten curriculum. Appendix F provides detailed information about the process of mapping curriculum.



Once the assessment of need has been completed and analyzed, it is time to plan the rest of the stages in the process of developing curriculum. There are several models of how the curriculum development process works and what it includes. All are cyclical in nature. Two examples follow.

Model 1

Form the committee.
Conduct a needs assessment.
Formulate statements of philosophy and goals.
Build a curriculum outline.
Write the curriculum guide including objectives.
Pilot test the new curriculum.
Revise the curriculum based on pilot test results.
Provide a forum for curriculum sharing.
Implement the curriculum.
Evaluate the new curriculum.

Model 2

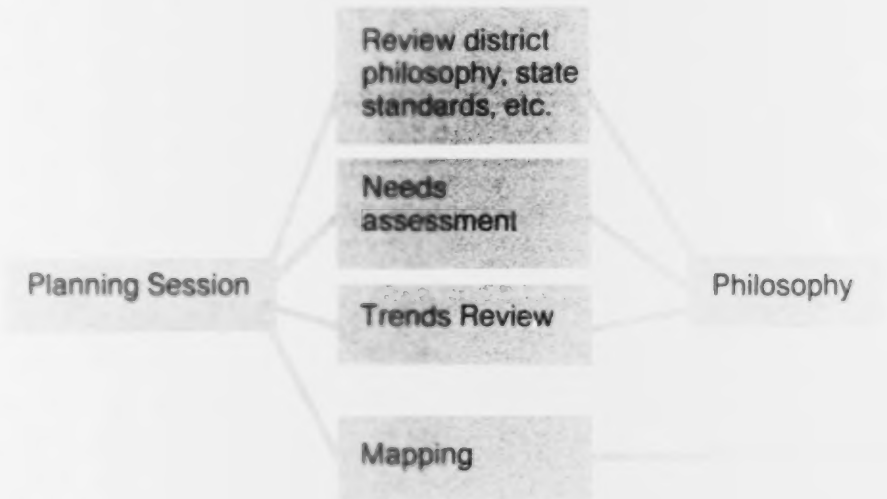
Consider the subject and its goals.
Analyze how well existing materials meet student needs.
Conduct a needs assessment.
Examine the scholarly research relevant to subject area curriculum.
Identify instructional approaches especially appropriate for subject matter and student learning styles.
Identify all readily available instructional materials.
Specify affective, cognitive and psychomotor student objectives.
Select learning experiences.
Identify additional learning resources.
Develop evaluation strategies for programs and for students.
Field test new curriculum.
Revise curriculum in response to field testing.
Implement curriculum subject to continuous reevaluation.

These models indicate the kinds of tasks that are part of the curriculum development process. Each subject area committee, with the concurrence of the district curriculum coordinator (or other administrators), must enumerate those tasks which it will undertake. Regardless of the model that is selected, curriculum development is basically a plan for orderly coordination of the elements of time, space, materials, equipment and personnel so that they are responsive to student and community needs.

From: *A Guide to Curriculum Development: Purposes, Practices and Procedures*, State of Connecticut Board of Education—1981.

Planning

Many activities contribute to the completion of a curriculum project according to a predetermined schedule. These activities take place in a logical order. It is, however, possible to complete several tasks which are not dependent on each other at the same time. These activities may, in turn, support a single goal. Consider the following example:



A timeline at the bottom of the model enables coordination and monitoring of the project.

Curriculum development is a complex task composed of a great number of subordinate tasks. The importance of careful planning cannot be overemphasized.

Pre-Writing

Considerations

Before commencing with the actual writing of the curriculum, certain considerations must be reviewed and attended to. The curriculum leader must understand the processes of any major curriculum change, must provide opportunities for staff to be involved in the development of the curriculum and thus ensure ownership of that curriculum, must familiarize the administrators with their role in the process, must acquire the resources the task requires, must make needed adjustments in adopting ready-made materials, must consider the politics of the community and lastly must identify and enlist the support of diverse individuals and groups.

Characteristics of Change

Three phases in the curriculum change effort are:

- mobilization (getting people interested in and motivated to change),
- implementation (putting a change into place and using it),
- institutionalization (making sure the change, if deemed valuable, "sticks" and becomes part of the ongoing practice of the organization). Attending only to mobilization and implementation will not ensure permanence of the change.

These phases rarely occur in a neat, orderly way. Instead, while some people are getting ready to change, others are implementing something new, and others may be ensuring that what has proved worthwhile becomes integrated into the new system.

Before embarking on any major curriculum improvement activity, a district/school needs to take a careful look at its past attempts to effect change.

- What have been the successes and failures?
- What can be learned from these experiences that will help in planning for other efforts?

Staff Involvement-Ownership

Staff involvement in the development of curriculum as well as in the implementation and use of that curriculum ensures ownership.

- Leaders should identify all resources to ensure success of the project commitment (e.g. released time, recognition, recertification credit)
- Realistic and planned processes should be used with the staff to develop curriculum change.
- Opportunity and time must be provided for teachers to initiate curriculum improvement and to work on developing the desired product.

Administrators should

- be leaders in curriculum development and program improvement.
- use building level or supervisory union committees with the structure to engage classroom teachers, subject area specialists, pupil personnel staff, consultants and administrators in planning and developing curriculum.
- be involved with staff who are working on changes and actively support them in the process.

Resources

Successful curriculum development involves the availability and effective use of the following resources:

- Human Resources - teachers, administrators, consultants, students and community members
- Time - to think, research, develop, implement and evaluate
- Materials - those presently in use or available through local, state and national sources, including professional journals.
- Funding - a projected budget to include substitute coverage, inservice costs, secretarial and printing services, materials and consultant fees if applicable.

Adapting Curriculum Material

If adapting curriculum material from elsewhere, consider these factors:

- its relevance to the local setting and needs.
- the clarity of its purposes.
- its complexity and hence potential problems in implementation and institutionalization.
- its quality and practicality.

Support Systems

Support is critical to the development and implementation of a coordinated K-12 curriculum.

- *Strong administrative leadership*, especially from the principal, is needed.
- Teachers and other school staff, the curriculum coordinator, department heads, the business manager and the superintendent are vital to the success of the development/revision process.

Other important support groups may include

- Parents
- School Board
- Students
- State Department of Education
- Colleges
- Other school districts
- Federal Department of Education

Political Considerations

In planning for most changes, these political factors must be addressed:

- socio-economic makeup of the community
- the values/attitudes of the staff, the students, the community, and the school board
- existing and possible political support

While the political considerations must not dictate the specific content of the curriculum, they can significantly affect general outcomes. It is wise to be sure to invite members of the community to participate in any and all projects. Consider including local representatives, college personnel, selectmen, board members and people with "minority" opinions.

Essential Curriculum Components:

A Written Curriculum Guide

The written curriculum guide should contain the following seven elements:

1. Philosophy
2. Goals and objectives
3. Scope and sequence
4. Major instructional activities
5. Suggested teaching strategies
6. Lists of available material and resources
7. Procedures for student and program evaluation

All but the scope and sequence element, which must be developed for each separate content area, are discussed in the following pages.

1. Philosophy

A philosophy is a clear statement of the beliefs and values which govern the given content area.

The philosophy should:

- Flow from and support the more general district philosophy.
- State the purpose of instruction in a given content area.
- Justify the inclusion of the given content area in the overall district curriculum.
- Reflect the contributions of all staff members involved.

Two sample philosophies appear in Appendix G.

2. Goals and Objectives

- Goals answer the question, "What should students know and be able to do at the end of the educational sequence?"
- An objective is a clear, succinct statement that details a particular skill to be developed.

Four basic considerations in the objective-writing process are:

A. *Develop specific skills objectives for each of the program outcome goals.*
B. *Establish a scope and sequence of content skills.* This is the sequential ordering of objectives from kindergarten to grade 12. These skills should follow from and extend the related skill objectives found in the preceeding grades and/or courses. Interdisciplinary coherence is an important consideration.
C. *Clarification of objectives.* Objectives should be drawn from the full scope and range of cognitive, psychomotor, and affective skills, abilities, and attitudes.
D. *Selection of objectives.* The objectives should be selected on the basis of the needs/abilities of students and/or on the basis of their measurability.

3. Major Instructional Activities

Activities should be designed to produce quality learning experiences for students. Possible sources for instructional activities include:

- Other teachers
- Resource guides from presently validated curricula
- Local and other districts' curriculum
- Teacher lesson plans and activity files
- Manuals published by professional educational organizations
- Vermont Department of Education, information services
- Federal education information services
- College and university curriculum centers
- Basal texts and trade books

The needs/abilities of all students should be identified and addressed in the process of developing instructional activities. The following questions can serve as guidelines for review and selection of activities.

- Does the activity match objectives?
- Is the activity interesting and stimulating?
- Is the activity appropriate to the grade/age and background of the students?
- Does the activity fit in the sequence of instructional activities and objectives?
- Does the activity relate to more than one objective?
- Does the activity require the student to use both lower and higher order thinking skills?
- Is the activity measurable in terms of student performance or measurable in another way?
- Is the activity practical and efficient in design?
- Does the activity reflect current research findings?

4. Suggested Teaching Strategies

Ideas from the teachers who will be using the strategies must be solicited.
Possible teaching strategies include:

- Group interaction approaches/group research
- Decision making activities
- Case studies
- Practice in concept development
- Games, simulations - individual or teams
- Charting and other approaches to information analysis
- Independent study
- Projects - individual, group, whole class
- Application of the wide range of technology
  - video/TV
  - computers
- Mainstreaming approaches for exceptional children
- Vocational practice
- Lecture
- Drill
- Questioning
- Discovery

5. Listing of Available Material and Other Resources

There are two basic considerations relative to resources:

- There should be a listing of all resources available for each objective, including where the material may be found, and information about support available from specialists.
- Selection of materials should take account the written objectives, the diversity of student needs and interests, the copyright of the material, and the cost.

6. Procedures for Student Evaluation

A. Student Evaluation

The evaluation plan should address the following three types of student evaluation: the pre-testing of student initial skill/knowledge, the ongoing assessment of student progress and the final assessment of student accomplishment.

1. Pretesting
   - To determine initial placement of a student in the K-12 sequence of activities and objectives.
   - To provide the teacher with information that will facilitate the grouping of students with similar instructional needs.
2. Interim testing
   - To assess the rate of the student's progress.
3. Posttesting
   - To determine if the student is prepared to continue in the sequence or if further instruction/practice is needed to achieve mastery of the stated objectives.

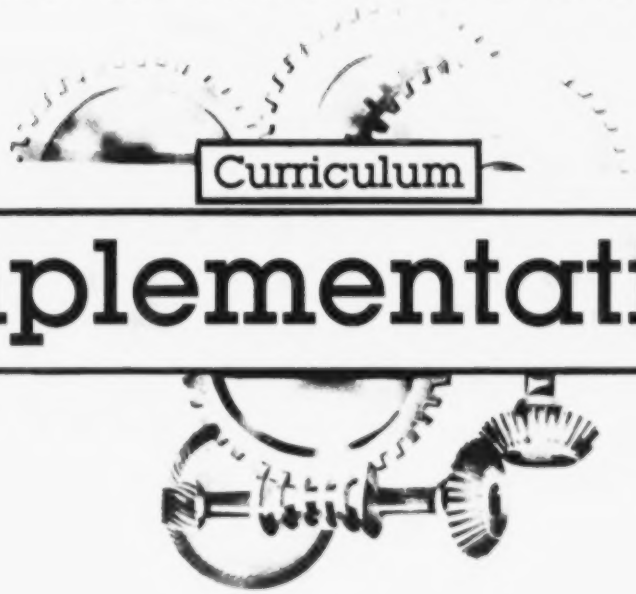
B. Recording student progress
   - Short term recording kept by individual teacher.
   - Cumulative recordkeeping: a record of student progress that follows a student throughout the K-12 written curriculum.

C. Ways of Evaluating Student Progress:
   - Locally constructed tests
   - Questionnaires
   - Behavioral observation
   - Case study
   - Questioning/Interview
   - Standardized tests

Consideration of Special Needs Students

In developing curriculum all components must address the relationship of special programs to the regular curriculum.

- The philosophy/purpose recognizes the diversity of the student population.
- Goals and objectives are drawn from the full range of what ever taxonomy is used.
- Instructional activities focus on the need of exceptional students at both ends of the continuum.
- Teaching strategies reflect awareness of research directed toward needs of special students.
- Support material is appropriate for students with varying needs.
- Testing recognizes the needs of special students.



Implementation

Many curriculum task forces have produced excellent documents. Unfortunately, their products have not always been successfully implemented. Listed below are four factors that must be considered in order to assure successful implementation of the curriculum.

Staff training

The task force should determine from the teaching staff the professional development activities necessary for the successful introduction of the new curriculum.

Issues for which the task force should seek solutions:

- How to communicate the goals and objectives of the new curriculum with other teachers, school board, and the community.
- How to develop any new teaching expectations with teachers.
- How to explore instructional strategies with teachers.

Public relations

The community needs to become aware of the new curriculum development. Local newspapers, radio broadcasts, school newsletters, and PTA meetings, all represent proven ways to feature the excellence of curriculum development work in schools. Additionally, teachers involved in the development and subsequent use of the curriculum could be candidates for Vermont RAP agent positions, or could give presentations at Vermont-NEA and affiliate conferences.

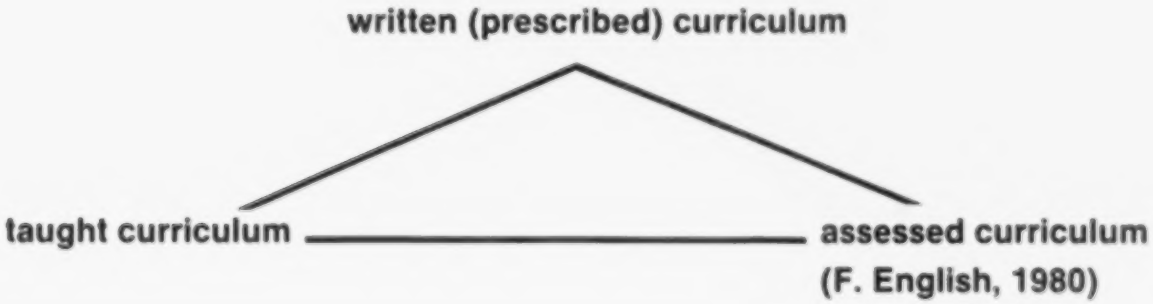
Supportive supervision

The early months are critical ones in the installation of a new curriculum. Teachers must see that their efforts are supported by colleagues and administration. This support can take many forms: material resources, consulting visits, inservice seminars to discuss implementation concerns with others, and cooperative observations of teaching practices by a colleague.

Quality in curriculum

The purpose of having a written curriculum is to accurately reflect what is actually being taught. A central aim of educators is to attain congruence among the written, taught, and assessed curriculum. The written curriculum may not reflect what is taught in the classroom, and what is assessed may focus on what is prescribed, but not what is taught. Activities that promote change usually focus on the prescribed, the taught, and the assessed curriculum.

Balance among these elements is essential to obtain excellence in the curriculum.

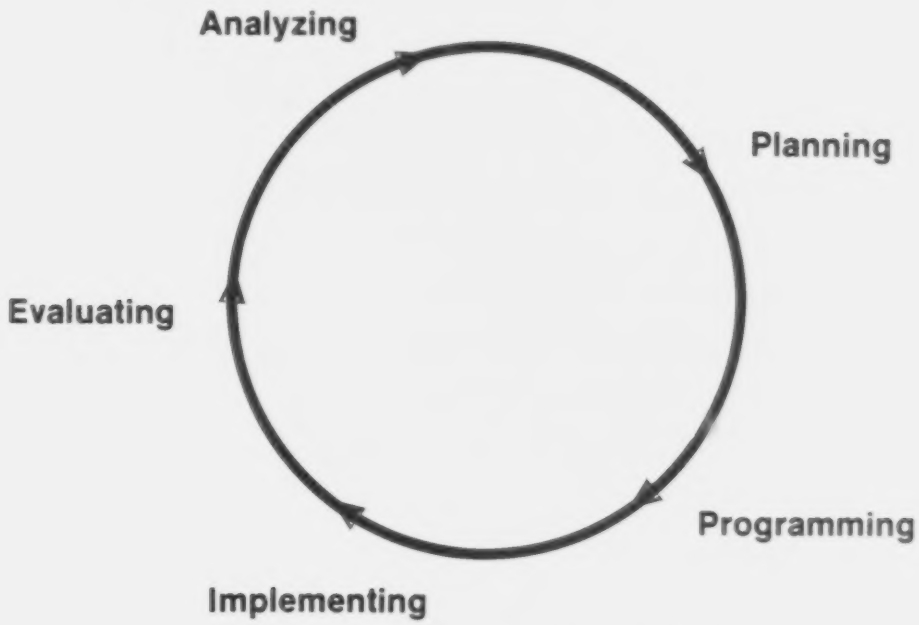


(F. English, 1980)

Program

Evaluation

Once the new program is in place in the classroom, the process needs to be completed with evaluation and an analysis of new needs.



From: *A Guide to Curriculum Development: Purposes, Practices, and Procedures*, State of Connecticut Board of Education—1981.

Indeed, curriculum evaluation is a continuous process. Thus a plan should exist for monitoring the program's implementation as well as for the overall curriculum effectiveness. The evaluation plan should address two types of program evaluation.

- **Evaluation of program implementation.** The plan should show what data will be collected to evaluate the implementation of the written curriculum and how these data are going to be collected.
- **Evaluation of program effectiveness.** The plan should show how the district plans to report the overall effectiveness of the curriculum.

Evaluation of the new curriculum or program should

- Specify what is to be evaluated (entire curriculum, specific program, or a specific subject area), and for what purpose (content coordination, content achievement).
- Determine criteria to be used to make the evaluation.
- Identify information (data) needed for the evaluation.
- Decide how to collect needed information (data) for the evaluation.
- Collect and analyze information (data) for the evaluation.
- Evaluate information (data) and make decisions.

Additional specific instructions for evaluating as well as for starting the curriculum development process, analyzing needs, designing the curriculum and implementing it, are outlined in the SADIE Chart. Also see Appendix H for a model. Appendix I contains a model for a cyclical curriculum development.

In retrospect the ideas of Ralph Tyler, one of the leading proponents of curriculum development, can serve as a summation. He saw the process of curriculum development as consisting of

- analyzing — diagnosis of need, review of existing curriculum and study of the current literature;
- planning — formation of objectives and selection of content and experiences;
- programming — development of curriculum including organization of content and learning experiences;
- implementing — pilot test of curriculum, revision if necessary and final implementation, and
- evaluating — evaluation before piloting, after piloting, and periodic monitoring and evaluation after implementation.

Framework
for the Development of a
Mathematics
Scope and Sequence

MATH FRAMEWORK

K—3

NUMBERS AND NUMERATION

1. Read and write whole numbers.
2. Compare the size of whole numbers using place value manipulative materials.
3. Demonstrate the ability to conserve number.
4. Count by ones, twos, fives, and tens.
5. Demonstrate one-to-one correspondence using manipulative materials.
6. Demonstrate the use of ordinal numbers.
7. Give examples which relate simple fractions to parts of a whole.
8. Order whole numbers from zero to one hundred.

OPERATIONS

1. Illustrate addition and subtraction using manipulative materials.
2. Demonstrate the relationship between addition and subtraction using manipulative materials.
3. Recognize and use the commutative and associative properties of addition with manipulative materials, (not necessarily by their formal names and definitions).

MEASUREMENT

1. Name the seasons, months, days of the month, and days of the week.
2. Tell time to the hour and half hour.
3. Determine the value of collections of coins to $1.00.
4. Use appropriate vocabulary to describe the relative positions of objects: above, below, behind, in front, etc.
5. Measure length in arbitrary units using manipulative materials.

4—6

NUMBERS AND NUMERATION

1. Write counting numbers in expanded notation.
2. Distinguish between even and odd cardinal numbers.
3. Write the number names in English.
4. Distinguish between prime and composite numbers.
5. Read and write Hindu-Arabic numbers from thousandths to billions.
6. Demonstrate the existence of integers through common examples.
7. Order simple fractions using manipulative materials.
8. Demonstrate equivalent fractions using manipulative materials.
9. Compare and contrast the Hindu-Arabic number system with other number systems.

OPERATIONS

1. State a word problem for a number sentence.
2. Recite the addition facts for whole numbers zero to ten.
3. Recite the multiplication facts for whole numbers zero to ten.
4. Add, subtract, multiply, and divide whole numbers.
5. Explain the inverse relationship between addition and subtraction, and between multiplication and division.
6. Add and subtract fractions using manipulative materials.
7. Estimate sums, differences, products, and quotients of whole numbers.
8. Use a calculator and/or a computer when appropriate.
9. Evaluate expressions using the correct order of operations.

MEASUREMENT

1. Make linear comparisons with inches, feet, yards, centimeters, and meters.
2. Tell time with a clock.
3. Measure lengths with metric and English rulers.
4. Read Celsius and Fahrenheit thermometers.
5. Recognize that error is inherent in measurement.
6. Find areas of simple two dimensional shapes and volumes of simple three dimensional shapes using models or diagrams.
7. Measure angles using a protractor.
8. Compare the origins of the metric and English systems of measurement.
9. Write amounts of money to $999.99 using symbols.
10. Make change for simulated purchases.

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MATH FRAMEWORK

1986

GEOMETRY	COLLECTION AND USE OF DATA	PROBLEM SOLVING
K-3		
1. Identify and illustrate squares, circles, rectangles, and triangles. 2. Recognize open and closed curves. 3. Recognize parallel and intersecting lines.	1. Gather, organize, and interpret simple data. 2. Read and construct pictographs and bar graphs. 3. Predict simple outcomes.	1. Create and solve simple word problems that are suggested by groupings of physical materials. 2. Evaluate the reasonableness of answers. 3. Interpret a written problem verbally. 4. Use pictorial representations to solve problems. 5. Estimate answers. 6. Create number stories for oral exploration of numerical problems.
4-6		
1. Describe the similarities and differences of trapezoids, parallelograms, rectangles, and squares. 2. Identify parallel and perpendicular lines using intuitive concepts. 3. Determine the congruence of two polygons by superposition and measurement. 4. Solve problems involving area and perimeter of squares, rectangles and triangles requiring whole number operations. 5. Classify angles by their measure. 6. Classify triangles and quadrilaterals according to their special properties. 7. Find an approximation of the value of pi using manipulative materials. 8. Identify the distinguishing properties of segments, rays, lines, angles, polygons, circles, and spheres.	1. Gather, organize, and interpret data. 2. Read, interpret, and construct bar and line graphs. 3. Construct a frequency table from simple data. 4. Propose and find answers to questions which require the gathering, organization, and interpretation of data. 5. Use calculators and computers to process data when appropriate. 6. Use mean, median, and mode as numbers that help describe a collection of data. 7. Predict the probability that an event will occur.	1. Use the four step heuristic approach to solve problems: 1. Identify the problem, including what is known, what can be found, and what is needed. 2. Plan a strategy. 3. Solve. 4. Check for reasonableness of results, units, degree of accuracy. 2. Apply various strategies in the problem solving process. 3. Estimate answers. 4. Use calculators and computers when appropriate in the problem solving process. 5. Apply problem solving skills to life situations.

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7—8

NUMBERS AND NUMERATION	OPERATIONS	MEASUREMENT
1. Describe the characteristics of integers, order them, and plot them on the number line. 2. Order rational and irrational numbers on a number line. 3. Round any number in the range of billions to billionths to a given place value. 4. Explain the need for and the use of estimation. 5. Express any number in the range of billions to billionths in expanded and scientific notation. 6. List the prime factors of any three digit number and express them using exponents. 7. Describe and find the greatest common factor and least common multiple of a set of numbers. 8. Express percent in several ways. 9. Express equivalent relationships between fractions, decimals, and percents.	1. Add, subtract, multiply, and divide rational numbers arranged either horizontally or vertically. 2. Find squares and square roots. 3. Use calculators and computers when appropriate. 4. Estimate sums, differences, products, and quotients. 5. Apply formulas such as D=rt, A=lw, V=lwh, $A=\pi r^2$ etc. 6. Use appropriate mathematical vocabulary. 7. Solve simple linear equations and open sentences. 8. Use percents in computation by converting to equivalent fractions or decimals. 9. Find and use greatest common factors and least common multiples. 10 Evaluate expressions using the correct order of operations. 11 Find fractional parts of whole numbers.	1. Use estimated values to check measurements of length, area, volume, mass, and temperature. 2. Determine the precision of calculations involving measured quantities by the least precise measurement. 3. Measure volume using containers graduated in metric and English units. 4. Measure mass (weight) using devices graduated in metric and English units. 5. Recognize that error is inherent in measurement and estimate variations caused by error.

9—12

NUMBERS AND NUMERATION	OPERATIONS	MEASUREMENT
1. Identify axioms for the real number system. 2. Recognize the need for a variety of sets of numbers. (Counting, negative, rational, even, multiples, factors, etc.) 3. Locate examples of different sets of numbers on the number line. 4. Represent numbers in equivalent forms. ($16 = 2x8 = 18-2 = 2^4$) 5. Define the absolute value of a number. 6. Classify decimal representations of numbers as rational or irrational. 7. Write a decimal number in scientific notation and vice versa.	1. Multiply and divide using powers of 10. 2. Show the inverse relationship between addition and subtraction, and between multiplication and division. 3. Estimate the reasonableness of calculations when performing addition, subtraction, multiplication,and division. 4. Perform the basic operations with various sets of numbers, such as natural, whole, integer, rational, irrational, real, and complex. 5. Perform operations and simplifications involving absolute values. 6. Justify the use of calculators and computers for appropriate operations. 7. Express comparisons as ratios. 8. Round off numbers to given place values. 9. Isolate and solve formulas for any given variable. 10. Read and interpret grouping symbols. 11. Translate word phrases into mathematical expressions. 12. Evaluate trigonometric functions using tables or calculators. 13. Identify the ratios associated with the sine, cosine, and tangent of an angle.	1. Use measuring instruments appropriate to the subject matter. 2. Explain the approximate nature of measurement. 3. Measure to the appropriate degree of accuracy. 4. Derive simple measurement formulas as in area and volume problems. 5. Apply measurement formulas. 6. Demonstrate that measurement is the repeated application of a standard unit. 7. Use the appropriate unit of measurement in applied problems. 8. Intepret and use measures of rate, such as miles per hour and meters per second. 9. Convert measurements to different units within the same system. 10. Use estimation to check the reasonableness of measurements. 11. Perform basic computations with measurements. 12. Evaluate the merits of different systems of measurements. 13. Identify the origins of different systems of measure. 14. Use calculators/computers to solve measurement problems.

MATH FRAMEWORK

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7-8

1. Find surface area and volume of prisms, pyramids, spheres, cylinders, and cones.
2. Measure and categorize angles.
3. Explain the meaning of congruence and similarity by visual comparison.
4. Determine congruent or similar figures by measurements of the least number of corresponding parts.
5. Recognize different types of symmetry.
6. State and apply the Pythagorean Theorem.
7. Recognize and use the vocabulary and symbols of geometry.
8. Find an approximation of the value of pi and use it appropriately.
9. Use LOGO, the Geometric Supposer, and other appropriate computer software.
10. Perform the standard Euclidean constructions using compass and straight-edge.
11. Determine when lines are parallel by the measure of the appropriate angles made by a transversal.
12. Use the Pythagorean Theorem when appropriate to calculate an unknown length.

1. Find the value of and explain the meaning of average, mean, median, mode, and range of a collection of data.
2. Analyze and solve simple one or two event probability problems, including the collection of data.
3. Graph ordered pairs in all four quadrants.
4. Graph linear functions.
5. Read, interpret, and construct pictographs, bar, line and circle graphs.
6. Calculate the number of finite orderings for a set of different numbers.
7. Determine the probability of events using sample spaces.
8. Use a computer to process the results of an experiment or survey.
9. Explain when to use a sample versus a census method of data collection.

1. Make a model or picture.
2. Obtain relevant data from the text, other written sources, or from experimental results.
3. Perform computations, making appropriate use of calculators and computers, including applicable software.
4. Generate and check solution candidates.
5. Organize data in lists, tables, or graphs.
6. Make inferences and generalizations.
7. Simplify data.
8. Write and use equations and formulas.
9. Explain and use the concept of iteration to process an algorithm.
10. Use logical sequencing and operators.
11. Solve problems with no numbers.
12. Solve problems that contain unneeded information.
13. Explore problems with insufficient information.
14. Explore problems with multiple solutions.
15. Solve problems involving ratio and proportion.
16. Solve problems involving area and perimeter of squares, rectangles and triangles.
17. Solve problems involving probability using manipulative materials and computers.
18. Work with others in groups to solve problems.

9-12

1. Describe the significant properties of common geometric figures:
   a) Sum of the measures of a triangle.
   b) Base angles of an isosceles triangle.
   c) The Pythagorean Theorem.
   d) 30-60-90 and 45-45-90 triangle relationships.
   e) Perimeter and area of triangles and rectangles.
   f) Volume and area of prisms, pyramids, spheres, cylinders, and cones.
2. Compare and categorize
   a) Right, supplementary, complementary, adjacent, vertical, alternate interior, and corresponding angles.
   b) parallel and perpendicular lines, rays and planes.
3. Perform the standard Euclidean constructions using compass and straight-edge.
4. Locate points and lines in two and three dimensional coordinate systems.
5. Apply the properties of congruence and similarity in two and three dimensional situations.
6. Use LOGO, the Geometric Supposer, and other appropriate computer software.
7. Describe some of the contributions made by Euclid, Pythagoras, Archimedes, and Descartes.

1. Calculate mean, median, mode, and range for a set of data.
2. Read, interpret, and construct tables and picto, bar, line and circle graphs.
3. Identify, collect, organize, and interpret data.
4. Determine the number of possible outcomes using permutations, and combinations.
5. Analyze and solve simple one and two event probability problems.
6. Use a computer to generate, process, and analyze data.

Apply the following steps in problem solving:
1. Restate the problem.
2. Determine relevant information.
3. Determine concepts and operations to be used.
4. Apply problem solving strategies, such as:
   a) Draw a diagram or make a model.
   b) Make a table.
   c) Find a pattern.
   d) Work backwards.
   e) Solve a simpler problem of the same type.
   f) Use a formula, equation, or algorithm.
   g) Use calculators/computers.
5. Find a solution.
6. Check the solution.

GEOMETRY **COLLECTION AND USE OF DATA** **PROBLEM SOLVING**

MATH FRAMEWORK

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The purpose of this framework is to establish some general parameters for a mathematics scope and sequence, with emphasis on the K-12 development of the content. It is intended to be used by local educators involved in mathematics curriculum development and revision.

The following educators contributed to the initial draft of the mathematics framework:

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The Vermont Council of Teachers of Mathematics has produced a FRAMEWORK FOR MATHEMATICS CURRICULUM DEVELOPMENT IN VERMONT, which includes a K-8 scope and sequence and plans for secondary mathematics. For further information about the VCTM FRAMEWORK contact any member of the VCTM or the state math consultant.

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Framework
for the Development of an
English/ Language Arts
Scope and Sequence

LANGUAGE ARTS FRAMEWORK

K—3

SPELLING

1. Identify letter sounds.
2. Distinguish likenesses and differences in letter forms.
3. Associate sounds with symbols.
4. Arrange words in alphabetical order with the first letter, second letter, and third letter.
5. Memorize and write assigned words correctly.
6. Identify compound words, base words, homonyms, antonyms, synonyms and contractions, prefixes and suffixes.
7. Identify and use word endings correctly.
8. Apply word attack skills to spelling.
9. Use dictionary skills.

GRAMMAR

1. Produce, orally and in writing, basic sentence patterns.
2. Expand basic sentence patterns with words and phrases.
3. Develop basic sentences into interrogative, imperative and declarative forms.
4. Use regular verb forms correctly in writing and speaking.
5. Recognize the changing nature of language.

LITERATURE

1. Recognize through stories and poems the experiences and emotions of other people.
2. Articulate emotional reactions and motives of story characters.
3. Communicate ideas, concepts and feelings through creative dramatics.
4. Choose to read various types of material on a variety of subjects.
5. Recognize characteristics of nursery rhymes, fanciful stories and poetry.
6. Recognize parts of books.
7. Make choices which indicate an appreciation of good literature through an awareness of authors, illustrators, publishers and interests.
8. Pursue an independent interest for pleasure reading.
9. Orally participate in a variety of literary forms.
10. Interpret pictures.
11. Name common elements of story.
12. Retell favorite stories and poems.
13. Identify non-stereotyped and non-biased literature.

MEDIA

1. Combine information from a variety of media to expand background information.
2. Formulate non print material and media to express ideas and feeling, and to retell stories.
3. Interpret audio visual resources to improve language fluency.
4. Read newspapers and magazines to learn about current events.

4—6

SPELLING

1. Extend alphabetizing skill.
2. Abbreviate days of the week/ months/titles/streets/states.
3. Obtain information by using the dictionary for definitions and pronunciation.
4. Apply rules for suffixes and prefixes.
5. Use context clues to spell homophones.
6. Locate words in the dictionary through use of guide words.

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GRAMMAR

1. Form complex sentences, using the most common subordinating conjunctions.
2. Use coordinating conjunctions to connect equal elements.
3. Use pronouns effectively including to point out use of generic male pronoun and its effect on language.
4. Use appropriate word order.
5. Use regular and irregular verb forms correctly.
6. Use proper subject-verb agreement.
7. Determine function of words and phrases by their position in a sentence.
8. Use verb forms to express time.
9. Form plurals of nouns.
10. Distinguish contemporary and historical influences on language.
11. Apply knowledge of roots and affixes to understand word meaning and functions.

LITERATURE

1. Identify and use figurative language which an author uses to enhance the quality of literature.
2. Describe and demonstrate that literature has a variety of forms and purposes.
3. Discuss language which creates and stimulates positive and negative mood.
4. Recognize and use various forms of poetic style.
5. Develop criteria for critical evaluation of literature.
6. Distinguish between fact and fantasy, fiction and non-fiction, biography and autobiography.
7. Identify language which an author uses which promotes stereotypes and bias.

MEDIA

1. Explain the organization of library-media center.
2. Locate (in the libary media center) a variety of print and non print material on an assigned topic.
3. Operate and use a variety of audio visual equipment.
4. Develop simple criteria for evaluating print and non print media.
5. Use appropriate sections of newspapers/magazines to locate information.
6. Use a multi media approach to express himself/herself logically and creatively.

LANGUAGE ARTS FRAMEWORK

K-3

READING

1. Associate printed word with object or concept it represents and predicts meaning of unknown words through context.
2. Extend reading vocabulary by using appropriate word attack skills.
3. Develop literal, interpretive and critical reading comprehension skills.
4. Self-correct approximations based on semantic and syntactic clues.
5. Expand vicarious experiences by exposure to a wide variety of reading materials, including expanded role models.
6. Use beginning reference skills to locate information.
7. Read material orally with fluency, clarity and expression.
8. Demonstrate ability to self-select materials and participate in sustained silent reading.
9. Predict story outcome.

REASONING

1. Identify similarities and differences in ideas and concepts and arrange and categorize them.
2. Demonstrate the process of logical thinking by sequencing, classifying, asking questions, making choices, and expressing opinions as the basis for developing problem solving abilities.
3. Derive logical solutions to simple problems by making appropriate choices and reasonable decisions.
4. Draw reasonable conclusions from information.

SPEAKING/LISTENING

1. Use oral expression experience to demonstrate proficiency of the English language in a variety of situations such as small group discussions and individual performance.
2. Use clear, concise language.
3. Alternate speaking-listening interactions during a conversation and discussions.
4. Listen and respond appropriately to oral language for the following purposes: attentively to gain information; analytically for comprehension; appreciatively for enjoyment; critically for making judgment; marginally at the passive level; and courteously.
5. Develop an understanding of the inappropriateness of name calling, ethnic or racial slurs and demeaning jokes.

WRITING

1. Demonstrate the understanding that oral language can be written by dictating captions, experience charts and stories.
2. Tell and write brief fictional and personal narratives that derive from experience.
3. Recall through writing simple personal data.
4. Participate in daily writing activities.
5. Write paragraphs containing stated main idea and supporting details.
6. Share personal experiences and feelings in writing prose and poetry.
7. Expand writing vocabulary by applying phonetic principles and inventive spelling to bring spoken language to paper.
8. Write legibly in manuscript or cursive.

4-6

READING

1. Develop vocabulary appropriate for instructional content and activities and use context clues to approximate meanings of new words.
2. Relate past experiences to reading material.
3. Distinguish that print is written language.
4. Demonstrate ability to self correct based on readjustment of predictions.
5. Use a variety of reference sources to locate information, solve problems, and answer questions.
6. Distinguish that personal values and points of view influence what is said, heard, or read.
7. Use leisure time for self-selected sustained reading.
8. Identify stated and implied main ideas and supportive details in related paragraphs.
9. Distinguish between fact and opinion.

REASONING

1. State a summary or conclusion based on data using charts, graphs, tables, maps, or list of facts.
2. Predict outcome based on relevant information.
3. Use available information to apply understandings to solve new problems in new situations.

SPEAKING/LISTENING

1. Speak before a group to express or defend an opinion or a point of view, present information, tell a story, present an oral interpretation of literature, read orally, and take part in a choral reading.
2. Use clear, concise language which is organized and incorporates words from vocabulary study, spelling, reading and listening.
3. Effectively participate in a discussion by alternating the role of speaker and listener.
4. Recognize when another does not understand the message.
5. Listen and respond attentively to gain information.
6. Listen and respond analytically with comprehension.
7. Listen and respond appreciatively for enjoyment.
8. Listen and respond critically to make judgments, solve problems, and make predictions.
9. Listen and respond courteously.
10. Adjust listening and responding strategies according to purpose.
11. Accept and value dialects as forms of communication.

WRITING

1. Write a paragraph in which all of the sentences are related to one topic.
2. Proofread written works for spelling and mechanical errors.
3. Write clear, understandable directions and explanations.
4. Vary written communications according to purpose and audience using vivid and specific written language, including friendly letter.
5. Select and narrow a topic to be used in a written assignment.
6. Organize information in outline form.
7. Write for purpose of argumentation, narration, exposition, and persuasion.
8. Use connecting words & phrases to establish relationship between or among paragraphs.
9. Follow suggestions made during peer and teacher conferences to revise and edit written work.
10. Increase spelling skills & writing vocabulary through the use of word attack skills, dictionary skills and memory.
11. Use a word processor in writing and editing.

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LANGUAGE ARTS FRAMEWORK

	SPELLING	GRAMMAR	LITERATURE	MEDIA
7—8	1. Enlarge speaking, reading and writing vocabulary through the use of spelling skills.	1. Articulate the function of words within sentences. 2. Name basic grammatical terminology. 3. Derive appropriate pronouns and antecedents. 4. Discuss the dymanic nature of language by identifying changes in pronunciation, meaning and word usage.	1. Explain that literature reflects the purpose, values and ideas of the author. 2. Expand range of interest through reading for pleasure and/or information. 3. Compare themes in adolescent literature with personal experience. 4. Outline the basic methods the author uses to create characters. 5. Demonstrate an appreciation for classics and contemporary literature appropriate for the adolescent reader. 6. Define figurative language, idiomatic expression, colloquial terms, allusions, stereotyping and bias.	1. Use media to expand cultural development, knowledge base and vicarious experiences. 2. Process information from a variety of media and use a variety of media to make reports. 3. Analyze a variety of media to learn about current events. 4. Locate and read international, national, state and local news, sports and editorial sections of the newspaper. 5. Establish criteria for comparing and evaluating the effectiveness of media and media presentations. 6. Operate and use audio visual equipment.
9—12	1. Enlarge speaking, reading and writing vocabulary through the use of correct spelling skills.	1. Edit punctuation to clarify meaning. 2. Verbalize common coordinating conjunctive adverbs appropriately. 3. Use modifiers effectively. 4. Articulate the changing nature of language. 5. Incorporate knowledge of the nature of the English language in reading, and in writing oral and media presentations. 6. Analyze the historical development of the English language including development of male, female and various ethnic language patterns. 7. Utilize the mechanics of the language for clear communication.	1. List characteristics that distinguish literary types. 2. Summarize themes of literary works. 3. Distinguish between literal and figurative language. 4. Derive the history and culture of a people through literature. 5. Read a wide variety of literature, including that by and about minorities and women. 6. Relate the relationship between style and meaning in literature. 7. Appraise elements of persuasion, propaganda and stereotyping techniques. 8. Recognize sonnets, ballads and epic poetry. 9. Read essays and a broad sampling of non-fiction.	1. Discuss the organization of information in the library/media center. 2. Use library/media center for research using a variety of media to gain information. 3. Evaluate a variety of media for creative productions. 4. Select appropriate media for reports and creative productions. 5. Develop criteria to evaluate media presentations. 6. Develop knowledge of the practical use of computers as a word processor and an information processor. 7. Evaluate a variety of media for equity.

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7-8

READING	REASONING	SPEAKING/LISTENING	WRITING
1. Adjust reading rate according to purpose and difficulty of material. 2. Compare concepts and generalizations based on information or ideas encountered in a variety of reading materials. 3. Self-select a wide variety of reading materials. 4. Expand reading vocabulary through use of context clues to acquire word meaning in reading passages of increasing difficulty. 5. Use library and reference skills to locate information. 6. Participate in oral reading and/or performance of dramatic materials. 7. Discern author's purpose. 8. Preview textbook reading assignments using editorial aids. 9. Use study skill techniques for effective reading.	1. Report data related to a problem. 2. Synthesize information from multiple sources. 3. Propose causes of or solutions to a problem. 4. Solve problems when presented with information by identifying components and their relationship and arrangement. 5. Compare ideas obtained from various sources. 6. Detect and react appropriately to propaganda and biases.	1. Participate in dramatic presentations. 2. Paraphrase orally from written and oral communications. 3. Listen to and paraphrase information orally to put the message in own words. 4. Use clear, concise language which is organized according to purpose, audience, and situation. 5. Exhibit confidence as a speaker through effective use of language, body, and voice.	1. Express him/her self in writing using forms of his/her own choice. 2. Record regularly his/her experiences, thoughts, and feelings.. 3. Write narrative fiction. 4. Write coherent paragraphs using effective methods of arranging details. 5. Write business letters for various purposes. 6. Complete forms and applications. 7. Write paraphrased information and summarize materials in writing. 8. Exhibit effective questioning and analytic skills during a writing conference.

9-12

READING	REASONING	SPEAKING/LISTENING	WRITING
1. Differentiate between connotative and denotative meanings of words in context. 2. Make inferences from printed information. 3. Identify author's point of view and explain its function and impact. 4. Synthesize information from multiple sources. 5. Use library resources to prepare research projects. 6. Use research skills to gather and evaluate information useful in solving problems and making decisions. 7. Read consumer information and indicates appropriate action. 8. Read orally and silently and with comprehension materials necessary for academic and vocational success. 9. Identify pattern of organization of multi-paragraph passages.	1. Explain functions of persuasion in society. 2. Apply principles of abstract and analytical reasoning when evaluating information. 3. Use information and apply understandings to solve new problems in new situations when no directions or methods of solution are specified. 4. Generate criteria for making value judgments. 5. Use research skills to gather and evaluate information useful in solving problems in making decisions. 6. Use bibliographical data to discriminate between valid and invalid sources of information. 7. Detect and react appropriately to propaganda and biases.	1. Use evidence to support contentions when presenting a point of view. 2. Demonstrate a sense of responsibility for participating in discussions and conversations. 3. Display a sense of responsibility for making appropriate contributions to discussions and conversations. 4. Use diction, vocabulary and language appropriate for the type of presentation and the nature of the audience when speaking publicly. 5. Demonstrate competence as an interviewer & interviewee.	1. Write essays with a clear thesis statement and cohesion among paragraphs. 2. Experiment with writing various literary forms. 3. Use specific words in place of general words. 4. Write for a variety of audiences. 5. Use varied sentence structure to enhance and clarify meaning. 6. Write a multi-paragraph letter applying for a job and/or seeking admittance to a college. 7. Write a documented informational paper. 8. Write effective sentences, paragraphs, and papers that reveal style appropriate for the writer's purpose and audience. 9. Write a persuasive composition. 10. Write a critical essay on a book, play, movie or TV program.

LANGUAGE ARTS FRAMEWORK

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The purpose of this framework is to establish some general parameters for an English/Language Arts scope and sequence, with emphasis on the K-12 development of the content. It is intended to be used by local educators involved in English/Language Arts curriculum development and revision.

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Framework
for the Development of a
Science
Scope and Sequence

SCIENCE FRAMEWORK

K—3

PROCESSES

1. OBSERVING - Using the senses (seeing, tasting, touching, hearing and smelling) to find out about objects or events in the environment.
2. DESCRIBING AND COMPARING - Recognizing and relating ways in which objects or events are alike or different.
3. CLASSIFYING - Grouping objects or events according to their observed characteristics.
4. INFERRING - Suggesting explanations, reasons or causes for events which have occurred which may not be directly observable.
5. PREDICTING - Describing in advance the outcome of an event or process based on observations or data.
6. MEASURING - Finding out about an unknown quantity by comparing its mass, area, length or volume with a known quantity.
7. COMMUNICATING - Conveying information through the use of oral or written descriptions, pictures, graphs, charts, maps, demonstrations, etc.
8. INTERPRETING DATA - Explaining the meaning or the significance of information regarding an object or event.
9. FORMULATING QUESTIONS - Thinking, asking and writing questions based on the nature and process of scientific events.
10. EXPERIMENTING - Designing and carrying out procedures under controlled conditions in which variables are limited to obtain reliable information about interrelationships between objects and events.
11. HYPOTHESIZING - Stating a probable explanation for some occurrence which is subject to testing.

LIFE SCIENCE

1. Explain the basic needs of plants and animals.
2. Classify different plants according to characteristics such as habitat, function, season, etc.
3. Graph the growth of a plant from a seed from data collected daily over a period of time.
4. From a picture of an animal describe how its structure helps it to survive.
5. With three known characteristics of a mystery animal, classify it as a mammal, reptile, amphibian, bird, insect, or fish.
6. Illustrate four chronological stages of growth of an animal.
7. Describe the breathing process.
8. Illustrate the circulation of blood to and from the heart.
9. Dramatize the function of the brain in the nervous system.
10. Trace the path of a food particle through the digestive system.
11. Suggest systematic ways of finding a solution to a given science problem.

4—6

PROCESSES

1. OBSERVING - Using the senses (seeing, tasting, touching, hearing and smelling) to find out about objects or events in the environment.
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LIFE SCIENCE

1. Identify and describe the basic differences between plant and animal cells.
2. Describe cell division.
3. Describe the functions of genes.
4. Explain how materials get into and/or out of cells.
5. Recognize several one-celled animals and plants.
6. Demonstrate the function of chlorphyll in food production.
7. Differentiate between asexual and sexual reproduction.
8. Differentiate between reproduction by spores, cones and seeds.
9. Identify flower parts by their function.
10. Describe the roles of various agents of pollination.
11. Observe and report the chronological development of several plant and animal organisms.
12. Design experiments which demonstrate the function of plant parts.
13. Identify causes which explain the extinction of certain plants and animals.
14. Hypothesize reasons for changes in plants and animals over time.
15. Predict how plants or animals may look in the future.
16. Recognize evidence of past life.
17. Contrast and compare vertebrates and invertebrates including their life systems.
18. Trace the progressive development of life systems from protozoans to vertebrates.
19. Identify and describe the major parts and functions of human body systems.
20. Contrast the processes of photosynthesis and respiration.

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SCIENCE FRAMEWORK

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PHYSICAL SCIENCE

K-3

1. Demonstrate through an experiment how matter can change from one state to another (i.e. liquid becomes solid, liquid becomes gas by heating or cooling).
2. Compare and contrast the properties of liquids, solids and gasses.
3. Demonstrate the operation of a pump and relate it to the workings of a heart.
4. Use the concepts of color, reflection, shadow and intensity to explain light.
5. Use a source of heat to show expansion and contraction of metals.
6. Through an experiment, explain variations in sound using concepts of pitch and vibration.
7. Compose and/or illustrate electrical safety rules.
8. Create and demonstrate the use of a simple balance.
9. Demonstrate properties of magnetism.
10. Observe the physical properties of several objects and predict which will be magnetic.

4-6

1. Observe and describe an energy change from one form to another.
2. Describe inter-relationships in an energy cycle.
3. Measure energy change data and make inferences from the data.
4. Manipulate materials to observe energy phenomenon.
5. Recognize and classify different states of matter.
6. Construct simple molecular models.
7. Generalize the difference between physical and chemical change and give examples.
8. Demonstrate the ability to use standard units of measure and measurement devices.
9. Collect and graphically record data from physical events in several different ways.
10. Analyze measured data to formulate predictions and generalizations.
11. Identify and demonstrate characteristics of simple machines.
12. Distinguish between chemical compounds, mixtures and/or solutions.
13. Construct simple electrical circuits.
14. Demonstrate the relationship between magnetism and electricity.
15. Contrast the characteristics of several examples of kinetic and potential energy.

EARTH & SPACE SCIENCE

1. Show how minerals are formed using a solution that evaporates leaving crystals.
2. Identify the major components of the air we breathe.
3. Draw a diagram of our solar system.
4. Given information about an imaginary planet (temperature, length of year, composition), locate it in the solar system.
5. Calculate and compare your age on earth to that on another planet after one orbit around the sun.
6. Using a light source, describe how the sun and stars produce heat and light.
7. Design a community on the moon, and contrast it to one on earth.
8. Trace water through its natural cycle.
9. Explain with models the Earth's daily and seasonal cycles.
10. Collect and record weather observations and make predictions based on this data.
11. Research and report on a destructive natural event and its effect on the weather and the environment (a hurricane, tornado, volcano, flood, etc.).
12. Classify rocks by how they were formed, by hardness, or by texture.
13. Identify several common minerals found in Vermont.
14. Illustrate the formation of a fossil.

1. Cite evidence that gasses, solids and liquids compose the atmosphere.
2. Describe the layers of the atmosphere.
3. Construct rudimentary weather instruments.
4. Measure factors that influence weather.
5. Translate weather data into forecasts.
6. Compare and contrast weather and climate.
7. Demonstrate the movements of the solar system.
8. Identify and describe the layering of the earth.
9. Recognize simple geologic structures.
10. Differentiate between rocks and minerals.
11. Identify and classify rocks and minerals.
12. Identify changes that produced fossils.
13. Investigate methods for dating fossils.
14. Construct models demonstrating principles of flight.
15. Contrast mass and gravity.
16. Evaluate the impact of space program technology on our future.
17. Compare operation principles of jets, rockets and satellites.
18. Describe the space environment.

ENVIRONMENTAL SCIENCE

1. Recognize the effects of natural forces in changing the shape of the land.
2. Make an oral report to the class on steps taken at home to conserve air, water, light, heat and/or soil.
3. Write a class article for the local newspaper listing spots in the community with noticeable noise, air, water, or land pollution adding suggestions for improvement.
4. Demonstrate the effects of one of the following changes using before and after models: erosion, building construction, forest fire, or dumping.
5. Describe a simple ecosystem that demonstrates the relationship of plants and animals to their environment (ie: diorama, mural).
6. Compare the plant life of a desert, an ocean, and a Vermont field.
7. "Construct" a habitat for a specific animal taking into consideration the need for shelter, food, protection and seasonal change.
8. Predict what would happen to an animal if one of the following occurred: a) winter never came, b) water supply was polluted, c) a new highway was built through the forest.
9. Identify some good and bad effects of technology on your daily life.
10. Create a technological invention that would benefit mankind.

1. Construct and identify model food webs.
2. Describe the interaction of several ecosystems.
3. Report and hypothesize several of mankind's positive and negative effects on the environment.
4. Design corrective methods to counteract abuse of the environment.
5. Demonstrate the "greenhouse" effect.
6. Identify the causes and effects of air, land and water pollution.
7. Relate the use of energy sources to future societal issues and careers.
8. Discuss the importance of energy conservation in homes, schools and businesses.

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7—8

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11. HYPOTHESIZING - Stating a probable explanation for some occurrence which is subject to testing.

1. Identify basic cell parts by their function.
2. Locate cells and basic cell parts with a microscope and record the findings.
3. Compare and contrast plant and animal cells.
4. Categorize cells by appearance and the role they play in an organism.
5. Research information on cells and relate that information to their role in multicellular organisms.
6. Identify and diagram the organs of an organism and describe their functions.
7. Design experiments that provide measurable data to show relationships between systems within an organism.
8. Relate organs to systems.
9. Compare and contrast the organs and systems of several plants and animals.
10. Categorize organisms by appearance, habitat and behavior.
11. Design and use classification keys.
12. Recognize and evaluate the relationship of foods to body function.
13. Design diets which satisfy individual nutritional needs.
14. Predict the effects of foreign substances on body function.
15. Distinguish diseases by changes in body function.
16. Identify natural body defense systems.
17. Predict the consequences of various treatments for disease.

9—12

PROCESSES

1. Conduct safe and accurate laboratory investigations on most of the commonly known laws of science and communicate the results in a scientifically structured manner.
2. Demonstrate the ability to discover and interpret regularities by constructing and analyzing tables and graphs and entering data into various mathematical relationships.
3. From appropriately collected information hypothesize reasons WHY phenomena occur.
4. Apply scientific concepts and laboratory procedures to investigate a phenomenon.
5. Propose and justify a sound solution to a hypothetical problem, giving steps used in the reasoning process.
6. Give examples of scientific theories that have been disproven and scientific facts that have changed.

BIOLOGY

1. Describe the relationship between organic compounds (such as proteins, lipids, carbohydrates) and nutritional/physiological needs.
2. Discuss the processes of cell respiration and photosynthesis, relating them to food chains and the interdependence of all living things.
3. Justify the statement that homeostasis is a universal process at all levels of organization in living systems.
4. Combining knowledge of cellular transport and cell structure, explain the on-going functioning of a cell.
5. Compare and contrast sexual and asexual reproduction including the advantages and disadvantages of each.
6. Illustrate how each individual can benefit from an understanding of the laws of heredity and the application of modern technology in the field of medical genetics.
7. Debate the ethical issues raised by recent advances in genetics, (e.g. recombinant DNA, cloning, gene therapy, eugenics, etc.).
8. Create a model to illustrate the structure of DNA and demonstrate the role of DNA in living systems.
9. Debate the validity of Darwin's theory of evolution and relate it to the concepts of adaptation and speciation.
10. Devise a classification system when given diverse collections of objects.
11. Categorize according to phyla a collection of organisms representing the various kingdoms and justify the methodology.
12. Demonstrate through examples the relationship between form and function as it relates to living things.
13. Trace the changes in adaptive techniques of plants as they increase in complexity.
14. Trace the development of the major life functions through the various kingdoms.
15. Interpret the results of an experiment to investigate the effect(s) of an environmental variable on the behavior of an organism.
16. Debate environmental issues related to human influences (e.g. the use of pesticides and herbicides, endangered species, acid rain, toxic waste, pollution, etc.).
17. Research a controversial issue such as world hunger, population control, euthanasia, embryo transfer, etc. Produce a paper which shows an understanding of all sides of the issue and which defends a personal position.
18. Investigate careers in various fields of biology.

PROCESSES

LIFE SCIENCE

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1-8

1. Demonstrate the safe use and care of laboratory equipment and supplies.
2. Design and carry out experiments that demonstrate physical and chemical change.
3. Chart or graph measurable data showing the properties of matter.
4. Distinguish between elements, compounds and mixtures.
5. Chart or graph measurable data when a force is applied to do work.
6. Categorize energy forms (electrical, mechanical, chemical, etc.) as kinetic or potential.
7. Design and carry out experiments to demonstrate energy change.
8. Apply the law of conservation of matter to chemical or physical changes.
9. Construct and explain models which illustrate molecular structure.
10. Infer characteristics and/or properties of elements from a periodic table.
11. Demonstrate fundamental properties of sound and light.
12. Demonstrate fundamental applications of electricity and magnetism.
13. Interpret molecular formulas.
14. Differentiate between acids, bases and salts.

PHYSICAL SCIENCE

1. Describe the relationship between the Earth and moon.
2. Illustrate the organization and interaction of bodies in the solar system.
3. Research information on celestial bodies of the universe and make inferences about their nature.
4. Describe the layers and forces of the atmosphere.
5. Collect, chart or graph weather data and predict future weather.
6. Design experiments that show the effect weather has upon the Earth.
7. Compare and contrast severe weather phenomena.
8. Draw conclusions about climate from weather and physical geography data.
9. Collect and record data on the physical properties of rocks and minerals.
10. Identify rocks and minerals using a classification key.
11. Describe the composition of the Earth.
12. Identify internal and external forces that change the structure of the Earth.
13. Chart, graph or map results of geologic activities.
14. Predict the result of the action of geologic force on an area of the Earth.
15. Interpret the relationships between rocks and minerals and the Earth's geologic activities.
16. Research information to predict the results of man's interaction with geological activity.
17. Formulate basic ideas about the origin of the Earth using research information.
18. Sequence a group of geologic events.
19. Construct time lines to illustrate relative lengths of geologic events in chronological order.
20. Infer the age of fossilized material and rocks using data from radioactive dating.
21. Interpret data to draw conclusions about geologic periods.

EARTH & SPACE SCIENCE

1. Identify and describe the living and non-living parts of an ecosystem.
2. Design and carry out experiments which illustrate the relationship between living and non-living parts of the ecosystem.
3. Compare and contrast ecosystems by physical characteristics and organisms.
4. Predict and evaluate the consequences of change to an ecosystem caused by mankind or nature.
5. Contrast the benefits of renewable vs. non-renewable energy sources.
6. Report on recent advances in science and technology and predict the potential effects on the environment.

ENVIRONMENTAL SCIENCE

PHYSICAL SCIENCE 9-12

PHYSICAL SCIENCE

1. Demonstrate through laboratory measurement of solids, liquids, and gasses the advantage of mass rather than volume as a measure of matter.
2. Demonstrate in the laboratory the use of physical and chemical properties to separate mixtures and compounds.
3. Investigate through quantitative experimentation several physical and chemical changes. Compare/contrast physical changes and chemical reactions, leading to the discovery of the Law of Conservation of Mass.
4. Collect data and study models which lead to the development of the Laws of Constant and Multiple Proportions.
5. Experience laboratory procedures (e.g. cloud chamber, Geiger counter, exposure of photographic plate) which lead toward the development of the atomic model of matter.
6. Investigate through experimentation various forms of energy (e.g. kinetic, potential, electrical, heat, etc.) and energy transfer leading to the discovery of the Law of Conservation of Energy.
7. Using a series of quantitative investigations with simple machines, illustrate the principles of mechanics (e.g. work, force, power, efficiency, mechanical advantage.)
8. Apply the principle of Ohm's Law to everday electrical devices. Calculate the cost of electrical usage of the devices.
9. Use a magnet, coil of wire, and galvonometer to construct a model generator. Use the generator to explain the commercial production of electricity from hydro, fossil fuels, atomic fission and fusion. Debate the efficiency, cost, and consequences of each.
10. Investigate the nature and transmission of sound and light and apply these concepts to the world of work (e.g. laser, microsope, sonar, ultrasonics.)
11. Utilize quantitative investigations of various heat transfer systems to develop an understanding of the concepts of specific heat, heat capacity, heat of fusion, heat of vaporization, and heat of combustion. Utilize these concepts to investigate the energy content of various fuels and foods.
12. Investigate the kinetic molecular theory and apply the theory to differentiate between heat and temperature and states of matter.

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EARTH SCIENCE

1. Prepare a data table to show the nature and composition of the atmosphere. Use the data to describe weather variations, cycles, energy transfer and changes brought about by human activity.
2. Observe and measure atmospheric properties using simple instruments such as thermometers, psychometers, and barometers. Use the patterns of change in these properties to predict the next day's weather.
3. Perform experiments that demonstrate the unequal heating of land and water areas of the earth. Use the data along with the Earth's motions to describe the formation and movement of air masses, fronts, and storms.
4. Show how the contributions of Ptolemy, Copernicus, Brahe, Kepler, Galileo, and Newton have been instrumental in developing our present day model of the Universe.
5. Develop a system for measuring the positions of stars on any night. Through observations record the position of a star or group of stars as they change during one night and over a period of several weeks. Relate this change to the motions of the Earth.
6. Compare the positions of the sun, moon, and Earth on a daily, monthly, and yearly basis. Discuss the interrelation of seasons, eclipses, phases of the moon, time, and tides to these changes in positions.
7. Compare planetary data from 1950 with that of 1980. Relate the changes to our space program.
8. Relate the spectral properties of a star to temperature, composition, motion, and evolution.
9. Use different types of maps, such as topographic, geologic and those produced by remote sensing to show changes on the Earth's surface.
10. Explain the origin of landforms and soils through a study of the processes and agents of weathering and erosion.
11. Apply the principle of uniformitarianism in determining the geologic history of individual rocks and sequences of rocks.
12. Identify and explain the evidence that supports the plate tectonic model. Use the plate tectonic model to describe the origin of rocks, volcanos, earthquakes and mountains.
13. Relate the nature and composition of sea water and ocean sediments to the water cycle.
14. Describe how air pressure, wind, Coriolis force, and density differences produce ocean circulation.
15. Describe the interaction of sediments, energy, currents, and waves in the production of coastal features.
16. Read "Spaceship Earth" by Buckminster Fuller. Provide evidence that the earth is a closed system in space with limited resources. Plot a graph of world population growth and interpret the future of humankind in terms of exponential growth.

CHEMISTRY

1. Relate the concept of electron configuration to chemical bonding, molecular geometry, oxidation-reduction and periodicity.
2. Relate kinetic molecular theory to the physical states of matter and their behavior.
3. Make stoichiometric calculations.
4. Use the concept of solution equilibria to explain the differences between strong and weak acids and bases.
5. Use redox potentials to explain electrochemical reactions.
6. Write correct equations to represent chemical and nuclear reactions and the accompanying energy transformations.
7. Discuss the consequences of chemical and nuclear changes.

PHYSICS

1. Use relationships between the laws of motion and forces to explain what happens to a person in a car that goes through acceleration, turning, and stopping.
2. Quantify work, power, and mechanical energy.
3. Construct diagrams that show how several forces act on an object.
4. Discuss how waves may be used to account for the properties of both sound and light.
5. Describe the operation of a transformer and quantify the relationships that occur between the primary and secondary circuits.

COMBINED

1. Relate physical and chemical principles to events and processes encountered outside the classroom.
2. Suggest an impact on society of recent advances in chemistry and physics.

The purpose of this framework is to establish some general parameters for a science scope and sequence, with emphasis on the K-12 development of concepts, skills and content. It is intended to be used by local educators involved in science curriculum development and revision.

The following educators contributed to the initial draft of the science framework:

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Framework
for the Development of a
Social Studies
Scope and Sequence.

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K—3

CONTENT

Self-awareness
Family
School
Neighborhood
Community
Occupations
Rules and responsibilities
Traditions and customs
Transportation and communication
Interdependence of people and cultures
Time and sequence
Map skills

GEOGRAPHY

1. State home address and telephone number.
2. Construct a simple floor plan.
3. Describe route taken from home to school.
4. Identify and explain landmarks and other geographical features in the community.
5. Identify environmental features in the community.
6. Explain how climate and surroundings affect the way people dress and live.
7. Use and draw simple charts, diagrams, graphs, and maps.
8. Apply terms involved with direction, location, and distance.
9. Interpret simple maps of classroom, school, and community.
10. Recognize a globe as a representation of the Earth, and identify simple features it.
11. Recognize simple map symbols.

HISTORY

1. Investigate family history.
2. Explore local history and historical sites.
3. Recognize variety of nationalities in the community.
4. Identify history of local occupations including the contributions of women and minorities.
5. Identify events and people from the past, including women and minorities, to help understand our traditions.
6. Explain basis of important holidays.
7. Use the calendar to identify and locate the days, months of the year, seasonal celebrations, and holidays.
8. Identify days of the week, months, seasons, year; use related time concepts.
9. Gather and interpret information from simple pictures, charts, and graphs.
10. Use the media to gather information about current events.

4—6

CONTENT

Regions and interdependence
Physical features of Vermont, the United States, a world region, or another country
People's influences on environment
Environmental influences on people
Group interactions: family, community, state, nation, and world
Human activity, change and development
Continuity in change and development
Influence of events on people
Influence of people on events
Similarity and differences among people: values, beliefs, rules, customs, behaviors
People's responsibilities to people, environment, and the future
Human conflict and conflict resolution
People supply basic needs in a variety of ways
Natural resources effects on people's needs
Interdependency of economic systems among regions
People's need for order
Variety of structures which provide order
Universal characteristics of humanity

GEOGRAPHY

1. Construct maps, graphs, and charts to demonstrate physical and cultural patterns using appropriate keys, legends, symbols and terms.
2. Interpret maps, graphs and charts.
3. Identify and locate geographical features of Vermont, United States, and other world regions. Describe differences and similarities.
4. Examine environmental influences on people's settlement patterns, lifestyle, and economic options.
5. Analyze patterns of population distribution in Vermont, United States, and another world region.
6. Distinguish between cultural and physical regions using local, national and world examples.
7. Describe climatic regions; compare and contrast two regions.
8. Explain how climate affects people's needs for food, clothing, shelter, transportation, and communication.
9. Describe use of natural resources in Vermont, the United States, and another world region.

HISTORY

1. Identify patterns of change and development caused by human activity in Vermont, the United States and another world region or country.
2. Appraise settlement patterns and colonization in Vermont, the United States and another world region or country.
3. Analyze conflict/conflict resolution between groups or countries for Vermont, the United States and another world region or country.
4. Explain and appraise government formation in Vermont, the United States and another country.
5. Compare and contrast slavery and its abolition in Vermont, the United States and another country.
6. Recognize that individual rights have evolved as a result of human political activity and that this evolution has varied among nations.
7. Analyze expansion, modernization, and industrialization, including the contributions of women and minorities, in Vermont, the United States and another world region or country.
8. Recognize the contributions culture and traditions of Native Americans in Vermont and the United States.
9. Analyze immigrant influence on change and development in Vermont, the United States and another country.
10. Identify American influence on other countries.
11. Identify foreign influence on the United States.
12. Construct a timeline which illustrates change and development caused by human activity in Vermont, the United States, another country or world region.
13. Examine contemporary issues and events and project possible consequences.

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ECONOMICS	LAW & GOVERNMENT	SOCIOLOGY	ANTHROPOLOGY	PSYCHOLOGY
K-3				
1. Describe how people depend on each other for goods and services. 2. Recognize that money and other forms of economic exchange may be used to obtain goods and services that people need and want. 3. Identify natural resources of the community and recognize their importance. 4. Identify different means of transportation. 5. Recognize interdependence of area communities. 6. Describe the kinds of work people do and the tools they use. 7. Identify people's needs and wants. 8. Recognize that people must make choices about how to spend money.	1. Assume classroom responsibilities. 2. Identify the need for rules at home and in school. 3. Help make classroom rules. 4. Tell how and why rules protect rights and property. 5. Participate actively in the decision-making process by identifying problems and suggesting possible solutions. 6. Identify the adults in school by the jobs they perform. 7. Identify local, state, and national symbols and patriotic songs; and recite the pledge of allegiance. 8. Role play process of elections. 9. Recognize that citizens can influence government decisions. 10. Demonstrate cooperation when working in a group. 11. Recognize basic freedoms and rights provided by the American form of government.	1. Recognize self as a unique individual. 2. Describe personal feelings. 3. Identify different family structures. 4. Identify the physical and social needs of a family. 5. Identify tasks that people must do in the family and at school. 6. Identify examples of the basic physical needs of people: food, clothing, and shelter. 7. Recite personal biographical data. 8. Demonstrate appropriate behavior toward others, and exhibit good social skills. 9. Participate in group activities.	1. Identify the different ways people communicate. 2. Compare and contrast family lifestyles of different cultures. 3. Examine similarities and make simple generalizations about communities being studied. 4. Compare and contrast surrounding communities. 5. Recognize interdependence of people and groups. 6. Recognize changes in environment and describe ways people adapt to change. 7. Compare customs and habits of different ethnic groups in the United States and groups in other parts of the world.	1. Discover that rules, beliefs, customs and values influence behavior. 2. Recognize that an individual has social roles in the family, school, and community which affects his/her behavior.
4-6				
1. Examine alternative ways people meet basic needs for food, clothing, and shelter within America, another region of the world, or another country. 2. Compare and contrast alternative ways people meet basic needs among varying cultures. 3. Appraise people's needs and wants in terms of natural and manufactured resources, supply, demand, consumption, scarcity, conservation, and exploitation. 4. Illustrate Vermont's economic interactions with other states and America's interactions with other countries. 5. Identify America's, Vermont's and another country's natural resources and explain their importance and uses. 6. Hypothesize about the needs and wants of future Vermonters and how they might meet those needs.	1. Analyze people's need for rules and laws in family, state, national, and international relationships. 2. Explain the functions of the three branches of government. 3. Recognize the individual's civic responsibilities. 4. Compare and contrast America's form of government with the government of another country. 5. Recognize individual rights (liberty, equality, justice). 6. Describe the content of the Declaration of Independence and Bill of Rights. 7. Identify components of Vermont local and state government. 8. Identify representative democracy, parliamentary democracy, communism, dictatorship, and monarchy. 9. Create a classroom law (bill), debate it, vote on it, establish procedures to enforce it, and appraise its effectiveness.	1. Describe roles individuals play in groups such as family, peers and co-workers. 2. Demonstrate group influences on individual behavior. 3. Cite need for and examples of social control. 4. Identify basic social institutions and their function in society. 5. Describe elements of socialization.	1. Compare and contrast beliefs, values, and customs of America with a selected world culture. 2. Illustrate how customs, values and beliefs influence behavior. 3. Examine different material and non-material cultures. 4. Describe how people transmit their beliefs, values and traditions. 5. Identify stages of human development. 6. Describe people's interdependency. 7. Describe people's relationship with environment: how people affect the environment, and how the environment affects people. 8. Design a futuristic culture. 9. Identify differences in food, clothing, shelter and traditions of different ethnic groups in Vermont, the United States, and in another country. 10. Describe the culture of Vermonters prior to European intervention.	1. Recognize individual differences and similarities. 2. Identify human emotions. 3. Compare and contrast innate and learned behavior. 4. Recognize that rules, beliefs, customs and values influence behavior. 5. Categorize people's emotional needs. 6. Create a perfect day. Describe what you would do with your day, and how you would feel about it. 7. Define discrimination, prejudice, bias and stereotyping.

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SOCIAL STUDIES FRAMEWORK

7—8

CONTENT

Region as an area of cultural/physical homogeneity
The Earth's limited resources
People/Earth relationships
Earth's physical features (land, air, water)
History as a living force, a series of changing events, peoples and trends
History as a series of cause and effect relationships
Continuity in human events
Conflict throughout human experience
Historical perspective
Historical evidence
Economic systems: scarcity, supply and demand,and natural resources
Economic interdependence among the world's cultures
Cultures as a reflection of physical environment and social experiences
Ideology as a system of beliefs which form the basis of a political system
Citizenship as a set of expected behaviors, values and beliefs
Institutions as a response to particular needs
Social stratification and the values of society
Culture as a way of life of a group of people: customs, traditions, values, institutions and artifacts
Cultures as a reflection of their physical environment and social experiences
Discovery, exploration, and settlement
Conflict and conflict resolution: forms, causes,and methods
Governing a nation: forms of government, citizenship, and political leadership
Patterns of economic development: resources, government's role, labor, technology, and markets
Frontiers and mobility: migration patterns and social change
Minorities studies
Future perspectives

GEOGRAPHY

1. Compare and contrast any two regions of the world.
2. Identify factors in Earth's past and current formation (weathering, continental drift, plate tectonic).
3. Categorize renewable and non-renewable resources.
4. Distinguish between cultural features and natural features.
5. Demonstrate the relationship between Earth's resources and human use.
6. Weigh people's impact on Earth's ecology.
7. Identify and locate various land forms and bodies of water.
8. Differentiate, read, interpret and construct maps.
9. Define and illustrate the Earth in space.
10. Compare and contrast earlier maps and globes with those of present day.
11. Observe and report data based on special purpose maps.
12. Locate the frontiers of the U.S. during different periods.

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HISTORY

1. Construct a timeline of important events in the history of any culture.
2. Recognize causes for an historical event (effect).
3. Predict future effects of current events.
4. Show elements of human experience which have remained constant in a culture.
5. Analyze the arguments in a conflict/dilemma.
6. Propose solutions to a conflict/dilemma.
7. Consider and classify various forms of evidence in the study of a culture's past.
8. Identify the elements which bring about exploration.
9. State each argument in a conflict and suggest methods of resolution.
10. Use primary and secondary sources of evidence.
11. Judge the reliability of various sources of evidence.
12. Distinguish statements of fact and opinion.

7-8

ECONOMICS	LAW & GOVERNMENT	SOCIOLOGY	ANTHROPOLOGY	PSYCHOLOGY
1. Describe the types of economic systems. 2. Hypothesize about the consequence of changes in supply and/or demand. 3. Classify the work people do with the goods and services that are produced. 4. Illustrate global economic interdependence by describing how a product is made with resources from various countries. 5. Appraise the results of technological change. 6. Describe how economic factors may be a cause for conflict. 7. Construct and read charts of economic growth. 8. Predict future trends in the economy of a selected country.	1. Debate the pros and cons of the various systems of government. 2. Identify the individual or group which exercises the most power in various political systems. 3. Justify why a set of rules or laws has been developed in a culture. 4. Design a set of rules or laws for a hypothetical society. 5. Determine a society's values based on its activities. 6. Cite examples of what is good citizenship in a society. 7. Illustrate the influences of propaganda on citizen action.	1. State the various groups to which an individual may belong. 2. Classify, without stereotyping, the roles, responsibilities and functions of the individual members of a specific group. 3. List the universal institutions of all cultures. 4. Create a model of social classes that reflect the values of a particular group. 5. Describe how different cultures have influenced one another. 6. Appraise the difficulties of adaptation and assimilation of cultures. 7. Predict sociological patterns changes in the future.	1. Describe a non-extant culture based on examination of its artifacts. 2. Describe a culture based on its physical environment. 3. Analyze two or more eras for common cultural elements. 4. Using several sources, describe the ethos of a particular group of people.	1. Role play a conflict situation and negotiate a resolution. 2. Justify and empathize with the grievances of a minority group.

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The Guide To Curriculum Development and the Social Studies Framework

The Framework provides suggestions for concepts, skills, and content to help local educators develop and revise individual course scope and sequence which meets Public School Approval Standards. The Framework provides flexibility in choice of grade level at which suggested concepts, skills, and content may be incorporated in the scope and sequence.

For example, a K-3 curriculum committee developing a Social Studies curriculum would study the K-3 Framework and decide the specific concepts, skills, and content to be taught for each grade level. The K-3 curriculum committee could decide that the 3rd Grade Social Studies course content should include Community, Rules and Responsibilities, Traditions and Customs, and Interdependence of People and Cultures. They could decide to include the following concepts and skills for the course:

Geography	History	Economics	Law & Government
#6	#5	#1	#1
#10	#9	#2	#5
	#10	#5	#8
			#9
			#11

Sociology	Anthropology	Psychology
#6	#5	#1
#8	#6	#2
#9	#7	

Having chosen the content, concepts and skills, the K-3 Committee can then develop the sequence for presenting the 3rd Grade course content, concepts, and skills and teaching strategies to implement them.

The process described above would be used to determine the scope and sequence for Kindergarten, 1st Grade, and 2nd Grade.

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Framework
for the Development of a
Social Studies
Scope and Sequence.

9—12

CONTENT

Basic chronology of important developments and events, including those affecting women and minorities in American history
Analysis of cause and effect relationships of important events and developments in American history
Continuity and change in American institutions
Conflict and conflict resolution in the course of American history
Evidence in the investigation of American history
Vermont perspective in American history
Interpretation of American history
Influence of geography (landforms, bodies of water, natural resources, demographics, and climate on the course of American history)
Significance of infrastructure (roads, navigable waterways, air routes, communications)
Development of American economic system and its institutions (labor, corporation)
Development of American economic values: independence and interdependence
Influence of money and banking on economic American history
Development of American political systems and ideologies
Development of political parties and interest groups and the role of public opinion
Power and distribution of resources
Making and interpreting constitutions
Political framework: legislative, executive, judicial
Concept of citizenship: evolution of rights and duties of citizenship
Decision-making at critical points in American history
American culture and subcultures (mores, beliefs, values): origins and transmissions
Cultural interaction in American history (dominant groups vs. minority groups, assimilation, isolation, diffusion)
Motivations of individuals and groups
American foreign policy

Basic chronology of important developments and events, including those affecting women and minorities in world history
Analysis of cause and effect relationships of important events and developments in world history
Continuity and change in various world cultures
Conflict and conflict resolution in various world cultures
Evidence in the investigation of world history
Interpretation of world history
Influence of geography (landforms, bodies of water, material resources, demographics, climate) on world history
Significance of place names and map locations in world history
Significance of infrastructure (roads, waterways, air routes, communication).
Comparison and contrast of traditional, command and market economic systems throughout world history
Comparison of economic values in world cultures
Influence of money and banking on the distribution of goods and services
Power and the distribution of resources
Development world political system and ideologies
Comparison of legal and governmental system of world cultures
Concept of citizenship and the evolution of rights and duties of citizenship in world cultures
Decision-making at critical points in world history
Comparison of culture in world history
Cultural interaction in world history (dominant groups vs. minority groups, assimilation, isolation, diffusion)

GEOGRAPHY

1. Locate and label on map places of historical significance.
2. Assess influence of geography on course of American history.
3. Evaluate the role of the growth of America's infrastructure on its economic development.
4. Cite ways in which cultural differences arise as the result of geographic location.
5. Locate on a map and globe the major land and water masses, continents, and nations.
6. Assess influence of geography on course of world history.
7. Evaluate the role of the growth of infrastructure on world economic development.
8. Locate on a map and globe the land of origins of America's major immigrant groups.
9. Identify major changes in global, political boundaries from World War I to the present.
10. Assess the influence of geography on the course of Vermont history: exploration and settlement, Native American settlements, development of economic base, and the Green Mountain axis on political development.
11. Assess the influence of Vermont's physical geography on the development of its infrastructure.

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HISTORY

1. List important periods in chronological order.
2. Analyze cause and effect relationships of and among important events and developments.
3. Trace change in one or more American institutions.
4. Analyze the various civil rights movements.
5. Compare and contrast similarities and differences of two historical periods.
6. Analyze causes and resolutions of America's domestic socio-economic and political conflicts.
7. Evaluate the legitimacy and significance of various forms of historical evidence.
8. Explain how events that took place in Vermont related to important national events.
9. Trace America's foreign policy and illustrate the impact of American foreign policy on domestic events.
10. Compare, contrast, and evaluate conflicting interpretations of historical events.
11. Cite ways in which cultural differences arise as the result of historical events.
12. Identify the major historical events and trends that have shaped the global development of culture.
13. Evaluate the forces that can cause political, economic, social, technological, and environmental change.
14. Compare different cultures at specific times in world history.
15. Analyze cause and effect relationships of and among important events and developments in world history.
16. Compare change and rate of change in various world cultures.
17. Analyze causes and resolutions of internal socio-economic and political conflicts in various cultures and various time periods.
18. Explain how events that took place in one culture related to important global events at the same time.
19. Trace how a civilization's (nation, state, etc.) foreign policy affects its domestic policy.
20. List important periods of Vermont history in chronological order.
21. Analyze cause and effect relationships in important events and developments in Vermont history.
22. Trace continuity and change in one or more Vermont institutions.
23. Analyze causes and resolutions of Vermont's domestic social, economic, and political conflicts.
24. Explain how events that took place globally and/or nationally related to events in Vermont.
25. Analyze and evaluate conflicting interpretation of Vermont history.

ECONOMICS

1. Trace development of the American economic system with specific reference to labor, agriculture and industry.
2. Illustrate how the values of independence relate to American economic development.
3. Trace the cycle of boom and bust in American economic history.
4. Demonstrate the relationship between the development of capital and labor in the growth of the American economy.
5. Analyze global economic interdependence in the areas of food, energy, capital, and other critical natural resources.
6. Describe the global aspects of Vermont's economy.
7. Compare and contrast traditional, command and market economic system at a period of time in world history.
8. Describe two examples of a culture's economic system changing from one model to another model.
9. Illustrate and discuss with historical examples four economic concepts such as competition, cooperation, independence, and interdependence.
10. Analyze the role of local, regional, national and international trade in economic history of the world.
11. Analyze the role of agriculture, tourism and light industry in the development of Vermont's economy.
12. Illustrate how values of independence and interdependence relate to Vermont's economic development.
13. Evaluate the reasons for the economic disparity between men and women in the world, the United States and Vermont.

SOCIAL STUDIES FRAMEWORK

CONTENT 9-12 Con't

Basic chronology of important developments and events, including those affecting women and minorities in Vermont history
Analysis of cause and effect relationships of important events and developments in Vermont history
Continuity and change in Vermont institutions
Conflict and conflict resolution in the course of Vermont history
Evidence in the investigation of Vermont history
National and global perspective in Vermont history
Interpretations of Vermont history
Development of Vermont political system and ideologies
Development of political parties and interest groups and the role of public opinion
Power and the distribution of resources
Making and interpreting the Vermont constitution
Political framework: legislative, executive, and judicial; federal-state relations
Concept of citizenship: evolution of rights and duties of citizens
Decision-making at critical points in Vermont history
Influence of geography (landforms, bodies of water, natural resources, demographics, climate) on the course of Vermont history
Significance of place names and geographic locations
Significance of infrastructure (roads, waterways, air routes, railroads, communications)
Development of Vermont economic base: agriculture, tourism, and light industry
Development of Vermont economic values: independence and interdependence
Critical social, political and economic issues facing Vermont
Vermont's cultures and subcultures (mores, norms, beliefs, values,): origins, and transmissions
Vermont - Canadian relations
Overview of the traditions and culture of the Abenaki people.

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LAW & GOVERNMENT

9-12

1. Illustrate decision-making processes and the use of power at critical points in American history.
2. Trace the origins of U.S. Constitution, Declaration of Independence, and Bill of Rights.
3. Assess the impact of the growth of government in American life.
4. Assess the impact of judicial review of the Constitution on American life.
5. Compare and contrast the rights of citizens enumerated in U.S. Constitution and Vermont Constitution.
6. Trace the development of political parties, interest groups and public opinion in American history.
7. Analyze basic values inherent in American political ideologies.
8. Analyze alternative ways to manage international conflict.
9. Evaluate the effectiveness of United Nations' role as peacekeeper.
10. Analyze the source, goals, and methods of the exercise of power by power figures in a variety of cultures during several periods of world history.
11. Define and compare various forms of government throughout world history.
12. Compare and contrast philosophies of the ideologies of government in various cultures in several periods throughout world history.
13. Define the concept of citizenship, and trace the evolution of rights and duties of citizenship in world cultures.
14. Propose and defend an alternative organization to the United Nations.
15. Trace the development of Vermont's political system and political tradition.
16. Trace the development of Vermont's political parties, interest groups, and the role of public opinion.
17. Illustrate decision-making processes and the use of power at critical points in Vermont history.
18. Trace origin of the Vermont constitution and government.
19. Assess the impact of judicial review of Vermont's constitution on the lives of Vermonters.
20. Identify and analyze critical issues of local-state and state-federal relations in Vermont history.
21. Propose solutions to critical social, political, and economic issues facing Vermont's people and government.

SOCIOLOGY

1. Compare and constrast lifestyles of mainstream American culture in at least two different periods.
2. Compare and contrast the lifestyle of mainstream American culture and a minority culture at one particular time in American history.
3. Compose a list of values for incorporation in a future global political environment.
4. Demonstrate that societies create a culture as a means of adapting to environment.
5. Identify common problems in different cultural settings.
6. Analyze how cultures have interacted with particular attention to minority vs. majority cultures, diffusion and assimilation.
7. Compare and contrast the impact of science and technology on religion, education, socialization, family life, art and music in several cultures and in several time periods.
8. Define Vermont's cultures and subcultures during several time periods.
9. Evaluate the impact of the civil rights movement and the women's movement on American culture.
10. Analyze the Abenaki presence throughout Vermont's history.
11. Compare and contrast assimilation, amalgamation, and cultural pluralism as patterns of ethnic and racial relations.
12. Discuss the impact of population changes and movements upon social change in the United States, Vermont, and the world.
13. Analyze a social movement using sociological principles.
14. Describe some possible solutions for dealing with the problems of aging in American society.
15. Analyze the impact which American values have played in causing environmental pollution and resource depletion.

ANTHROPOLOGY

1. Explain how Americans have assimilated features of other cultures and how American culture has impacted on foreign cultures.
2. Identify the subcultures within the classroom, school and community.
3. Identify the universal elements of culture.
4. Compare and contrast the beliefs and values of different cultures.
5. Cite contributions (technology, beliefs, institutions) made by America to global culture.
6. Explain how Vermonters have assimilated features of other cultures and how Vermont's culture has impacted on other cultures.

PSYCHOLOGY

1. Analyze the motivations of important individuals and groups in critical situations in American history.
2. Describe and intellectually support personal beliefs about such questions as war and peace, inequalities in the distribution of the world's resources, etc.
3. Analyze the motivation of important individuals and groups, including women and minorities, in critical situations in Vermont, U.S., and world history.

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	#10	#5	#8
			#9
			#11

Sociology	Anthropology	Psychology
#6	#5	#1
#8	#6	#2
#9	#7	

Having chosen the content, concepts and skills, the K-3 Committee can then develop the sequence for presenting the 3rd Grade course content, concepts, and skills and teaching strategies to implement them.

The process described above would be used to determine the scope and sequence for Kindergarten, 1st Grade, and 2nd Grade.

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The purpose of this framework is to establish some general parameters for a Social Studies scope and sequence, with emphasis on the K-12 development of concepts, skills and content. It is intended to be used by local educators involved in Social Studies curriculum development and revision.

The following educators contributed to the initial draft of the social studies framework:

KATHY CADWELL ..... HARWOOD UNION HIGH SCHOOL
MORETOWN

JOHN CANE ..... BURLINGTON HIGH SCHOOL

DIANNE COOK ..... PROCTOR ELEMENTARY SCHOOL

WILLIAM DOYLE ..... JOHNSON STATE COLLEGE

MARY RECZEK ..... MT. ANTHONY JR. HIGH SCHOOL
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WILLIAM SCHWAB ..... BRATTLEBORO UNION HIGH SCHOOL

PEGGY SVEC ..... CAVENDISH ELEMENTARY SCHOOL

WILLIAM WOOLSEY ..... NORTH COUNTRY JR. HIGH SCHOOL
NEWPORT

MARY WOODRUFF ..... WILLISTON ELEMENTARY SCHOOL

BILL DUNKELBERGER SOCIAL STUDIES CONSULTANT
VERMONT DEPARTMENT OF EDUCATION

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Framework
for the Development of an
Art Education
Scope and Sequence

The purpose of this framework is to establish some general parameters for a Social Studies scope and sequence, with emphasis on the K-12 development of concepts, skills and content. It is intended to be used by local educators involved in Social Studies curriculum development and revision.

The following educators contributed to the initial draft of the social studies framework:

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K—3

LINE

1. Draw different kinds and qualities of lines (straight, thick, thin, etc.)
2. Use a variety of media and methods to make lines
3. Verbalize moods which lines may show
4. Demonstrate use and care of materials and tools used to make lines
5. Give personal responses to line (preferences, dislikes, etc.)
6. Discuss movement and direction of line
7. Discuss kinds and qualities of line
8. Give a personal response to line used in an art work

SHAPE/ FORM

1. Recognize and use organic shapes/forms
2. Identify and use simple geometric shapes/forms
3. Use shapes/forms to create patterns
4. Use positive-negative shapes/forms to create geometric or organic patterns
5. Use a variety of media and methods to make shapes/forms
6. Differentiate between organic and geometric shapes
7. Identify the use of shapes as symbols (logos, traffic signs, etc.)
8. Identify the historical use of shapes as symbols (religious, symbols, flags, traffic signs, etc.)

COLOR

1. Identify and use the three primary colors.
2. Identify and use the three secondary colors.
3. Mix primary colors to secondary colors.
4. Identify warm and cool colors.
5. Use warm and cool colors to indicate mood.
6. Demonstrate use of materials and tools used to make color.
7. Discuss primary and secondary colors.
8. Discuss warm and cool colors.
9. Respond to color in constructed or natural environments.
10. Give a personal response to colors used in an art work.
11. Identify how artists use the emotional quality of color.
12. Identify the symbolic use of color in our culture and in others.

VALUE

1. Draw lines which change in value.
2. Use value to create mood.
3. Use a variety of methods and media to create value effects.
4. Differentiate light, medium, and dark values in the natural and constructed environment.
5. Discuss how to use value to create an expression of emotion or mood.

TEXTURE

1. Identify and describe various textures(smooth, rough, soft, scratchy)
2. Use at least two textures to create a work.
3. Sculpt with hands or tools at least three different textures
4. Make textured rubbings over actual textures
5. Demonstrate use and care of materials and tools used in producing texture
6. Discuss textured varieties on surfaces
7. Differentiate between actual and simulated textures
8. Discover the qualities of texture - (soft, rough, fuzzy, etc.)

MOVEMENT

1. Identify and use lines to show direction (spiral, concentric, arrow)
2. Develop rhythm by repetition

REPETITION/ PATTERN

1. Recognize and color simple 1-2 patterns.
2. Create simple 1-2 patterns.

4—6

LINE

1. Use line to express motion and change
2. Use line to express mood (calm, excited, happy etc.)
3. Use line to define shapes
4. Discuss emotional qualities lines can create
5. Discuss sources of lines (drawn, painted, in nature, shape against shape)
6. Discuss the representation of three dimensions on a two dimensional surface
8. Discuss how line is used to create images

SHAPE/ FORM

1. Color shapes/ forms for emphasis, variety, or patterning
2. Add to or subtract from a shape or form
3. Use shape to create movement in space
4. Combine simple shapes to create more complex shapes
5. Make positive and negative shapes
6. Discuss placement of shapes to indicate space
7. Discuss proportion as related to shape
8. Identify how artists use shape in composition

COLOR

1. Use darkness and light to indicate proximity and distance.
2. Mix tints and shades of one color.
3. Identify and use complementary colors for emphasis.
4. Mix at least six tertiary colors.
5. Mix tints and shades of one color.
6. Discuss the tertiary colors.
7. Discuss the complementary colors.
8. Discuss analogous colors.
9. Identify how artists use emotional quality of color.

VALUE

1. Demonstrate value using one color.
2. Use value to distinguish shape/form.
3. Use values to create mood.
4. Use values to create balance.
5. Demonstrate care and use of materials used in value studies.
6. Discuss contrasting values.
7. Discuss how to use value to create the appearance of a three dimensional surface in a two dimensional art work.
8. Give personal responses to uses of values in an art work.

TEXTURE

1. Simulate actual texture on a two dimensional surface.
2. Use a variety of actual textures in three-dimensional media.
3. Give a personal response to textures used in an art work.

MOVEMENT

1. Demonstrate movement in artworks in a variety of media.
2. Develop rhythm by sequence (repetition of related examples of the same element)
3. Use rhythms in decorative compositions.
4. Discuss rhythm as a method of design unity.
5. Identify use of rhythm by artists in two or three dimensional media.

REPETITION/ PATTERN

1. Create more involved patterns.
2. Demonstrate repetition in a variety of media.

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ART EDUCATION FRAMEWORK

BALANCE	CONTRAST	EMPHASIS/ DOMINANCE	UNITY	HISTORICAL/ CULTURAL	CRITICISM/ APPRECIATION/ EVALUATION
K-3					
1. Make a symmetrical design 2. Discuss the three types of balance 3. Give a personal response to balance in an art work	1. Demonstrate contrast in each of the elements of design 2. Use a variety of media to create contrast opposition 3. Discuss the use of contrasting values 4. Discuss the use of contrasting lines 5. Discuss the use of contrasting textures 6. Discuss the use of contrasting forms	1. Identify the point of interest in an art work		1. Use one's senses to discover art in one's world 2. Use a variety of media to describe common experiences 3. Use art to depict historical events including those of importance to minority groups and women 4. Be introduced to and create art projects similar to the artworks of various cultures including those of women and minority groups	1. Identify the subject matter of artwork ranging from the realistic to the abstract 2. Discuss and create artwork that emphasizes the elements of design 3. Verbalize the emotion conveyed in artworks 4. Evaluate one's own artwork and that of one's peers in terms of lesson objectives 5. Develop non-judgemental appreciation of different styles
4-6					
1. Distinguish between symmetrical and asymmetrical balance 2. Create symmetrical and asymmetrical balance in 2 and 3 dimensional art projects 3. Demonstrate balance in a variety of media 4. Discuss the use of balance as a principle of design 5. Discuss works of art that use symmetrical balance 6. Discuss works of art that use asymmetrical balance 7. Discuss works of art that use radial balance 8. Identify examples of the three kinds of balance in constructed and natural environments	1. Demonstrate contrast in a variety of media 2. Use contrast in abstract composition 3. Use contrast in compositions using subject matter 4. Use a variety of media to create contrast/opposition	1. Create a center of interest in a work of art 2. Create a center of interest in abstract compositions 3. Create a center of interest in realistic compositions 4. Give a personal response to dominance —subordination in an art work 5. Identify how artists use dominance and subordination to evoke emotion		1. Integrate art with the study of the history, culture, and society of countries being studied including that of women and minority groups 2. Be aware of the timeline of art history (e.g. prehistoric, Egyptian, Greek, etc.) 3. Study the media and techniques used by various cultures and explore them as artists and be exposed to a variety of art works, including those by women and minority artists 4. Be introduced to a variety of art related careers	1. Propose possible rationale for an artist's design choices 2. Differentiate among periods of art 3. Distinguish among artists' styles 4. Experiment with various period or artist styles in their own art works 5. Evaluate one's own work using correct vocabulary 6. Relate classroom activity to viewing art in museums or galleries 7. Compare and contrast one's artwork with professional work 8. Relate emotionally in an immediate way to art he/she is experiencing 9. Critique an artwork emphasizing the elements and principles of design 10. Recognize famous art works in non-school settings

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7—8

LINE	SHAPE/FORM	COLOR	VALUE	TEXTURE	MOVEMENT	PAT-REPETION/TERN
1. Use different kinds and qualities of lines in a variety of media 2. Use line to define shape 3. Use line as decorative pattern 4. Use line to create the illusion of depth 5. Use groups of lines to produce an artificial texture 6. Use line to create space 7. Identify careers using skills and training in the use of line (architect, draftsman, photographer, cartoonist, etc 8. Use line to suggest volume	1. Create geometric shapes/forms in 2-D and 3-D 2. Astract shapes/ forms from objects 3. Use value to define shapes 4. Create shape families (areas with common qualities: rectangular, triangular, biomorphic, etc.) 5. Use shape in linear perspective 6. Discuss placement of shapes to create movement 7. Identify how shape applies to careers (photographer, jeweler potter, industrial designer)	1. Mix colors to produce intermediate colors 2. Mix colors to create value scale showing tones of a color 3. Identify, produce, and use complementary colors 4. Define and use analogous colors 5. Use warm and cool colors to illustrate advancing and receding colors on a picture plane 6. Use color to express emotion 7. Create color contrasts between objects or shapes 8. Discuss light and pigment of color theory 9. Identify how color is used in careers (television, interior design, movie, clothing design, advertising)	1. Make a value scale in 7 steps from light to dark 2. Use at least 4 values of light/dark in a composition 3. Create the illusion of a 3-D shape by showing highlight, shading and shadow 4. Use value to represent solid objects, (a strong light, dark shadows, and two or three medium values) 5. Use massed lines to create value 6. Discuss the components of value gradation 7. Identify how the artist uses value in works of art 8. Identify how value applies to careers (industrial designers, commercial artist, architect, cartoonist, photographic)	1. Create the illusion of texture with a variety of media and methods 2. Create invented texture through imagination 3. Discuss the uses of textural pattern (actual or simulated) to enrich pictorial areas) 4. Identify careers that deal with texture and design (fabric and clothing design, stage design, etc.)	1. Use line, shape and color to create a visual path on the picture surface or around the sculptural form 2. Demonstrate rhythm in each of the design elements 3. Use rhythm in abstract composition 4. Use rhythm in compositions using subject matter 5. Use a variety of media to create rhythm 6. Discuss rhythm as a principle of design 7. Identify rhythmic pattern in natural and designed objects in the environment	1. Use visual units in marked patterns 2. Use slight variations of a pattern in a single art work

9—12

1. Select the appropriate quality of line for an art work 2. Use various media to make lines 3. Use the line to draw descriptively 4. Use the line to draw expressively 5. Use the line to contour draw 6. Use the line to cross-contour draw 7. Use the line to blind contour draw 8. Use the line to gesture draw 9. Use erasure to demonstrate line 10. Create a coherent composition through the integration of lines 11. Work with line in 3 and 4 dimensions (sculpture,rope, wire) computer, video, movement, animation, holograms, kinetic line, light, film 12. Demonstrate use and care of materials and tools used to make lines 13. Identify an understanding of the use of line in the past and in contemporary society (logos, traffic signs, religions, alphabets, etc.) 14. Interpret the expressive intent of line used in representational, abstract and non-objective student and adult artwork	1. Create closed - open shapes/forms 2. Create positive-negative shapes/forms 3. Create geometric-natural shapes/forms 4. Produce accurate images in a variety of media (pencil, pen and ink, brush and ink, watercolor, acrylic, or oil paint, clay, wood) of the natural and constructed environments by looking at objects, while painting, drawing or sculpting 5. Develop simple shapes into complex ones in abstract or non-objective compositions 6. Observe the congruence between a representational image of an object and the real object 7. Explain different expressive options in each style of art while looking at examples of both representational and abstract student art	1. Use color qualities such as tint-shade (value) and intensity (saturation) 2. Demonstrate color relationships such as matching color values, triadic colors, and split-complementary colors 3. Mix a hue with its' complement to produce a lighter or darker tone without loss of intensity 4. Explore the expressive use of color to convey feeling or create mood	1. Will produce a value scale in a variety of media 2. Utilize the concept of value in the study and use of color 3. Make monochromatic value scales in a variety of media (ink, water color, acrylic, or oil paint, pastel, colored paper) with nine clearly contrasting values of one color 4. Recognize, identify and indicate the location of light, dark and seven middle values in a work of art 5. Analyze changes in value that produce a sense of its three dimensions	1. Differentiate manmade (manufactured and created) from natural textures and discuss their uses in the environment 2. Explore the use of texture in 2 or 3-D art works 3. Explore the expressive properties of texture to create mood or convey feeling 4. Understand compositional and expressive properties and uses of texture 5. Recognize skillful and appropriate use of actual, simulated, artificial, natural and invented textures, in representational, abstract and non-objective artworks by students and adults	1. Demonstrate qualities of movement (rhythm, harmony, transition, and tension) in an artwork 2. Make compositions using three or more of the basic art elements and principles that display rhythm by duplicating a motif (drawing, painting, fiber or wood sculpture, colored paper) 3. Find examples of rhythm that convey specific moods or feelings in representational, abstract, and nonobjective student and adult art	1. Demonstrate repetition, similarity, and variation in an artwork

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7-8

BALANCE

1. Use symmetrical and asymmetrical balance through line, shape and color in a work of art
2. Use positive and negative shapes in a picture to create balance
3. Demonstrate balance in each of the design elements
4. Use a variety of media to create balance
5. Identify how balance relates to culture
6. Identify how artists use balance to create mood

CONTRAST

1. Use contrast to create variety in an artwork
2. Use contrast in decorative compositions
3. Discuss the emotional responses created by contrast
4. Give a personal response to contrast opposition in an art work
5. Identify how artists have created contrast opposition

EMPHASIS/ DOMINANCE

1. Create an artwork emphasizing one dominant element (line, shape, etc.)
2. Discuss dominance in an art work
3. Discuss the kinds of emotional responses possible due to dominance—subordination in an art work
4. Demonstrate an awareness of the uses of dominance and subordination in the art of other cultures as well as our own (e.g., religious art, political cartooning, commercial art, etc.)

UNITY

1. Describe the unity employed in an artwork

HISTORICAL/ CULTURAL

1. Identify ways that specific societies have used visual art to express their ideas and beliefs
2. Demonstrate an understanding of the visual artist as a recorder of history and ideas
3. Identify ways in which a specific artist has used an art medium to express a reaction to an event that took place in society
4. Identify the environmental factors that influence the characteristics of a society's art
5. Identify the influence of historical events on the work of artists
6. Identify ways in which society's culture and traditions impact on artistic expression
7. Identify ways that knowledge of art materials and techniques can contribute to the individuality of art expression
8. Identify the style peculiar to the work of a specific artist
9. Identify a variety of art related careers

CRITICISM/ APPRECIATION/ EVALUATION

1. Justify one's like/dislike for art and judgement through acquired problem-solving techniques
2. Evaluate and justify one's own artworks

9-12

1. Recognize and utilize the concept of stability of formal/symmetrical and informal/asymmetrical composition
2. Make realistic abstract, or non-objective compositions using three or more principles of the basic art elements and principles that display each of the three kinds of balance (radial, symmetry, asymmetry)
3. Understand compositional usefulness and expressive properties of each kind of balance

1. Use several degrees of contrast within an artwork
2. Make compositions using at least three of the basic art elements and principles that employ effective contrasts to create a center of interest
3. Describe how contrasts have been used to achieve mood and compositional unity

1. Establish a focal point in a composition and develop relationships of the parts to that focal point
2. Discuss how dominance—subordination contributes to compositional unity and meaning

1. Produce a unified composition utilizing all the elements and principles of design

1. Relate developments in art to the political and societal environment of their times
2. Relate specific art media to appropriate art history
3. Use art terminology to discuss and write about art works
4. Analyze art works according to their medium, period, style, and artist
5. Explain the relationship between form and function
6. Describe the cross cultural relationships in art objects, motifs, designs, and themes
7. Compare and contrast the elements and principles of visual arts with their occurrence in other arts
8. Define the role of the artist designer and design components in nonfine arts career fields, e.g. landscaping, engineering, furniture design
9. Identify professions using non-stereotyped role models requiring artistic or visually creative skills

1. Increase use of critical language (verbal and written) skills through teacher, group and personal critique evaluations
2. Make informed judgements about the quality of environments and consider methods of altering them
3. Develop a sense of confidence in one's own judgment through acquired problem-solving techniques
4. Understand and analyze one's own works and the works of others
5. Make parallel sequential transferences from problem to problem, i.e. build on previous knowledge to solve the next problem
6. Evaluate art according to the elements and principles of design and/or specific assignments
7. Develop one's own criteria for evaluating their own work
8. Recognize that art is in a continuous state of change which does not imply improvement or deterioration

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The purpose of this framework is to establish some general parameters for an arts scope and sequence, with emphasis on the K-12 development of the content. It is intended to be used by local educators involved in art curriculum development and revision.

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Framework
for the Development of a
Music Education
Scope and Sequence

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CONTENT	LISTENING	SINGING
K-3 Melody Harmony Rhythm Timbre Form Style	Melody 1. Identify high and low sounds. 2. Outline simple melodic contour. 3. Identify previously introduced melodies. 4. Identify the pitches of the pentatonic scale. 5. Recognize musical phrases. Harmony 1. Recognize the presence of multiple sounds. Rhythm 1. Distinguish between long and short sounds and silence. 2. Distinguish between pulse and rhythm. Timbre 1. Distinguish between vocal and instrumental music. 2. Distinguish among the following: Accompanied and unaccompanied vocal; vocal ranges, including bass, tenor, alto, soprano and children's voices; and solo and ensemble, vocal and instrumental. 3. Recognize classroom rhythm insiruments by sound. 4. Begin to identify orchestral families by sound and sight. Form 1. Identify melodic and rhythmic phrases as being the same or different. 2. Recognize the forms AB and ABA. Style 1. Experience a variety of musical styles such as lullaby, march, and American folk songs. 2. Recognize simple contrast in tempo dynamics.	Melody 1. Produce high and low sounds. 2. Begin to match pitches. 3. Sing simple songs from memory in solo and ensemble settings. 4. Begin to sing simple songs in tune. 5. Sing simple songs with the following accompaniments: doubled melody line, chordal, and acapella. 6. Sing the pitches of the pentatonic scale. Harmony 1. Develop sense of home tone. 2. Maintain with others, a vocal melody against spoken and sung ostinato. 3. Experience singing a two part round. Rhythm 1. Demonstrate the difference between long and short sounds and silence. (♩ ♫ ♩ 𝄽) 2. Sing simple songs with rhythmic accuracy. Timbre 1. Explore the various tone colors of the human voice. 2. Begin to develop a pleasant singing tone. 3. Experience solo singing. Form 1. Start to sing at the appropriate time after a musical introduction. 2. Experience call and response, verse-refrain, canons, and simple rounds. Style 1. Sing simple songs in a variety of musical styles. 2. Sing songs with a variety of tempi and dynamics.
4-6 Melody Harmony Rhythm Timbre Form Style	Melody 1. Distinguish melodic patterns containing steps, skips and repeated tones. 2. Recognize melodic sequences. 3. Identify tonality as major, minor, or pentatonic. Harmony 1. Recognize presence of chord changes in accompaniments. Rhythm 1. Distinguish between duple and triple meters. 2. Experience uncommon meters. Timbre 1. Begin to distinguish between two, three, and four part vocal and instrumental music. 2. Distinguish between soprano, alto, tenor, and bass voices by sound. 3. Identify orchestral families by sound and sight. Form 1. Recognize rondo, theme and variations, introduction, and coda. Style 1. Experience a variety of musical styles such as classical styles, and foreign folk material. 2. Explore the progression of our American musical heritage. 3. Recognize more subtle contrasts in tempo and dynamics.	Melody 1. Sing more complex songs with the following accompaniments: doubled melody line, chordal, and accapella. 2. Sing more complex songs in tune. 3. Sing the pitches of the major scale. Harmony 1. Experience three and four part rounds, counter melodies, descants and simple two part choral music. Rhythm 1. Sing more complex songs with rhythmic accuracy. 2. Sing songs in duple and triple meters. Timbre 1. Continue to develop a pleasant singing tone. Form 1. Continuation of K-3. Style 1. Sing songs in an expanded variety of styles. 2. Sing songs with an increased variety of tempi and dynamics.

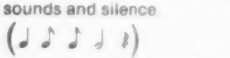
PLAYING

K-3

Melody
1. Produce a given melodic contour on a classroom melody instrument.
2. Produce given melodic phrases on a classroom melody instrument.

Harmony
1. Develop a sense of home tone.
2. Play ostinati.
3. Begin to play chordal accompaniments. IV

Rhythm
1. Demonstrate the difference between long and short sounds and silence.



2. Demonstrate the difference between pulse and rhythm on an instrument.
3. Begin to play accompaniments.

Timbre
1. Identify classroom instruments by sight.
2. Develop proper playing technique of classroom instruments.

Form
1. Start to play at the appropriate time after a musical introduction.

Style
1. Play a variety of tempi and with a various dynamics.

4-6

Melody
1. Produce a given melody on an instrument.
2. Produce a familiar song given the starting pitch.

Harmony
1. Play I, IV and V, chords to accompany a melody.

Rhythm
1. Demonstrate more complex rhythmic patterns on an instrument.
2. Demonstrate duple and triple meters on an instrument.
3. Continue to develop an ability to accurately play accompaniments.

Timbre
1. Continuation of K-3.

Form
1. Continuation of K-3.

Style
1. Play in an expanded variety of styles.
2. Play pieces with an increased variety of tempi and dynamics.

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CREATING

Melody
1. Improvise a melody vocally and/ or on classroom melody instruments.

Harmony
1. Invent spoken, sung, and played ostinati.

Rhythm
1. Invent rhythmic patterns using long and short sounds and silence.

2. Invent simple accompaniments.

Timbre
1. Explore non-traditional ways of producing sound on found objects, the body and instruments.

Form
1. Create a rhythmic composition in two part form.
2. Create a melodic composition in two part form.

Melody
1. Improvise a melody vocally and/or on classroom instrument given a simple chord pattern (I IV V).

Harmony
1. Begin to harmonize melodies.
2. Work individually and with others to improvise.

Rhythm
1. Invent more complex rhythmic patterns.
2. Invent more complex accompaniments.
3. Invent simple pieces using duple and triple meters.

Timbre
1. Continuation of K-3.
2. Explore sound through instrument construction.

Form
1. Create a simple rhythmic composition in rondo form.
2. Create an introduction and coda for a given melody.

Style
1. Select and play appropriate instruments to accompany a musical selection in a particular style.
2. Participate in group improvisation in a variety of styles.
3. Explore use of tempi and dynamics to create contrasting moods.

READING/WRITING

Melody
1. Develop a working knowledge of the staff.
2. Write sequentially on the staff the following pitches of the pentatonic scale: sol, mi, la, do, and re.
3. Read from the staff the following pitches of the pentatonic scale.

Rhythm
1. Interpret

2. Take rhythmic dictation and patterns.

Timbre

Form
1. Recognize written melodic and rhythmic phrases as being the same or different.
2. Will represent with symbols the forms AB and ABA.

Style
1. Interpret simple tempo and dynamic markings.

Melody
1. Identify and write on the staff the pitches of the major scale.
2. Begin to sight read the pitches of the major scale.
3. Recognize pitch patterns and phrases by reading traditional or invented symbols.

Harmony
1. Experience score reading: unaccompanied songs; accompanied songs; two, three, and four part choral pieces; and instrumental scores.
2. Recognize and notate given intervals.

Rhythm
1. Interpret meter signatures.

Form
1. Recognize written melodic and rhythmic phrases as being the same or different.
2. Represent with symbols, introduction, coda, and repetition and contrast of up to three sections.
3. Correctly interpret repeat signs, D.C., D.S., Fine, and first and second endings.

Style
1. Interpret additional tempo and dynamic markings.

MOVING

Melody
1. Show awareness of high and low sounds and melodic movement.
2. Show musical phrasing.

Harmony
1. Demonstrate understanding of cadences and home tone.

Rhythm
1. Maintain a pulse.
2. Demonstrate the difference between pulse and rhythm.
3. Demonstrate simple rhythmic patterns.

Timbre
1. Demonstrate contrasts in solo-ensemble, homophonic, polyphonic.
2. Demonstrate contrasts in tone color.

Form
1. Demonstrate AB and ABA, including call and response, verse-refrain, canons, and simple rounds.

Style
1. Improvise to a variety of musical styles.
2. Demonstrate contrasts in tempo and dynamics.

Melody
1. Continuation of K-3.

Harmony
1. Demonstrate chordal changes.

Rhythm
1. Demonstrate more complex rhythmic patterns.
2. Demonstrate duple and triple meters.
3. Respond to various tempos and tempo changes.

Form
1. Demonstrate rondo, theme and variations, introduction and coda.
2. Continuation of K-3.

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7-8

CONTENT	LISTENING	SINGING
Melody **Harmony** **Rhythm** **Timbre** **Form** **Style**	**Melody** 1. Identify phrases, cadences, and musical sentences which comprise melody. 2. Continue to identify the difference between major and minor melodies. 3. Discriminate aurally the same melody in different keys. Harmony 1. Identify, classify or notate various intervals through aural stimulation. 2. Identify, distinguish between, and notate various scales through aural stimulation. 3. Distinguish aurally between major and minor tonality. 4. Recognize difference between, tonal, polytonal, and atonal music. Rhythm 1. Continue to aurally develop abilities to identify meter, beat, and tempo in musical compositions. 2. Continue to aurally develop abilities to identify various durational values of notes and rests. 3. Describe the rhythmic movement from aural examples, in terms of some of the following: syncopation, accents, and rhythmic patterns. Timbre 1. Continue to discriminate differences among vocal, instrumental, and electronic sounds. 2. Distinguish between characteristic and uncharacteristic tones. Form 1. Recognize motives, phrases, and section changes heard in performance. 2. Identify aurally the structure of simple song forms; e.g., AA-AB-ABA-ABC. 3. Identify aurally the structure of round, rondo, theme and variations, and fugue. Style 1. Describe, analyze, and compare various ways in which duration, pitch, timbre, dynamics, tempo and form are organized and combined in various styles through aural examples. 2. Describe and analyze through listening the extra musical forces that may influence musical style. 3. Continue to explore our American musical heritage.	**Melody** 1. Demonstrate melodic independence through 2-3 part singing. 2. Restate dictated rhythmic patterns. Harmony 1. Sing independently a non-melodic line. 2. Participate in singing simple three-part harmony which includes soprano, alto, and boys' changing (Cambiata) parts. Rhythm 1. Continue using a systematic, effective counting method. 2. Restate dictated rhythmic patterns. 3. Continue playing accompaniments. Timbre 1. Continue to develop characteristic vocal tone. Form 1. Maintain parts in rounds. Style 1. Continue to develop skills necessary to perform music of various styles and cultures.

9-12

Melody **Harmony** **Rhythm** **Timbre** **Form** **Style**	Melody 1. Refine knowledge of phrase, cadences, and musical sentences which comprise melody. 2. Refine knowledge concerning the difference of major and minor melodies. 3. Continue to aurally discriminate melody in different keys. Harmony 1. Continue to identify, classify, or notate all intervals within one octave through aural stimulation. 2. Continue to identify, distinguish between, and notate scales, modes and several non-Western tonal systems through aural stimulation. 3. Refine aural distinctions between major and minor tonality. 4. Explore non-Western tonal systems through vocal, instrumental,and electronic sound sources. 5. Refine distinctions between tonal, polytonal, and atonal music. Rhythm 1. Identify aurally more complex forms of meter, beat, and tempo. 2. Identify aurally more complex durational values of notes and rests. 3. Identify aurally more complex examples of syncopation, accents, and rhythmic patterns. Timbre 1. Distinguish between characteristic and uncharacteristic vocal and instrumental sounds. 2. Explore additional awareness of vocal and instrumental sound production. Form 1. Review aurally motives, phrases, and sections. 2. Identify the structure of more complex musical forms. Style 1. Evaluate various ways in which the elements of music are combined and arranged to define style.	Melody 1. Restate dictated melodic patterns of increased complexity. 2. Continue to demonstrate melodic independence through ensemble performance skills. Harmony 1. Refine independent singing of a nonmelodic line (sight-singing). 2. Continue to participate in singing more advanced three-four part harmony consisting of S.A.T.B. and various combinations. Rhythm 1. Continue using a systematic effective counting method. 2. Restate more complex dictated rhythmic patterns. Timbre 1. Develop a mature vocal tone. Form 1. Sing a wider variety of repertoire. Style 1. Refine skills necessary to perform music of various styles and cultures.

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7-8 PLAYING

Melody
1. Restate dictated melodic patterns on instruments.
2. Demonstrate melodic independence through ensemble playing.

Harmony
1. Play independently a non-melodic line in small ensembles.

Rhythm
1. Use systematic effective counting method.
2. Restate more complex and dictated rhythmic patterns.

Timbre
1. Continue to develop characteristic playing tone.

Form
1. Maintain melodic independence through playing of rounds and simple song forms.

Style
1. Continue to develop skills necessary to perform music of various styles and cultures.

CREATING

Melody
1. Use original or given melodies to improvise, arrange and/or compose music.

Harmony
1. Improvise or compose music using given or original interval patterns.
2. Improvise or compose music emphasizing specified scales or scale patterns.
3. Improvise or compose chord melodies illustrating differing degrees of tonal center.

Rhythm
1. Use original or given rhythms to improvise and/or compose rhythmic exercises, accompaniments and compositions.

Timbre
1. Create and explore traditional and non-traditional sound sources.

Form
1. Improvise and compose works containing clear and identifiable major sections.
2. Use original or given motives when improvising or composing music.
3. Explore New Music compositional devices.

Style
1. Compose, arrange, and improvise in various musical styles.

READING/WRITING

Melody
1. Notate pitch patterns and phrases by using traditional or invented symbols.
2. Continue to develop sight reading skills.

Harmony
1. Identify, classify or notate various intervals through visual stimulation.
2. Identify, classify or notate various scales through visual stimulation.
3. Continue to experience score reading.

Rhythm
1. Sight read simple rhythms.
2. Notate simple rhythms.

Timbre
1. Demonstrate knowledge of timbre symbols, e.g., stopping and muting.

Form
1. Identify visually clear and well defined motives, phrases, and sections of a musical composition, e.g., theme and variations, periods, coda, and major sections.

Style
1. Describe, analyze and compare various ways to which duration, pitch, timbre, dynamics, tempo and form are organized and combined in various styles through written examples.

MOVING

Melody
1. Use movement to describe melodic contour and intervallic range.

Melody 9-12

1. Restate dictated melodic patterns on instruments.
2. Demonstrate melodic independence through ensemble playing.

Harmony
1. Play independently a nonmelodic line in various ensembles.

Rhythm
1. Use systematic effective counting method.
2. Restate more complex and dictated rhythmic patterns.

Timbre
1. Develop a mature instrumental tone.

Form
1. Expand the repertoire.

Style
1. Refine skills necessary to perform music of various styles and cultures.

Melody
1. Improvise, compose, or arrange music using original or given melodies.

Harmony
1. Explore improvisation and composition using given or original interval patterns.
2. Explore improvisation and composition using specified scales or scale patterns.
3. Explore improvisation and composition using chord melodies illustrating differing degrees of tonal center.

Rhythm
1. Improvise and compose using more complex rhythms.

Timbre
1. Create and explore more exotic sound sources.
2. Continue to create and explore traditional sound sources.

Form
1. Be given encouragement to create complete musical works containing clearly identifiable motives, phrases and sections.

Style
1. Compose, arrange, and improvise in various musical styles.

Melody
1. Notate pitch patterns and phrases by using traditional or invented symbols.
2. Recognize pitch patterns and phrases by reading traditional or invented symbols.

Harmony
1. Identify, classify, or notate various interval scales, and chords through visual stimulation.

Rhythm
1. Sight read more complex rhythms.
2. Notate more complex rhythms.

Timbre
1. Explore traditional and non-traditional timbre symbols e.g., New Music Scores.

Form
1. Analyze the form of major works.
2. Explore innovative methods of notating and printing music, e.g., computers.

Style
1. Evaluate various ways in which the elements of music are combined and arranged to define style.

Melody
1. Advanced stages of movement should be designed through a dance curriculum.

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The purpose of this framework is to establish some general parameters for a music scope and sequence, with emphasis on the K-12 development of the content. It is intended to be used by local educators involved in music curriculum development and revision.

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Framework
for the Development of a
Health Education
Scope and Sequence.

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K–3

BODY STRUCTURE & FUNCTION

1. Name major body parts and major organs and their functions.
2. Name five (5) senses and their function.

HUMAN GROWTH & DEVELOPMENT

1. Name some similarities and differences between individuals.
2. Discuss how each person is unique.
3. Recognize stages of human growth and give examples of how people of the same age may be similar, yet different while growing and developing. Acknowledge that death may occur at any stage.
4. Recognize that all human beings come from adult human beings.
5. Discuss the meanings of heredity and environment, and identify some of the growth characteristics one may have inherited.

FAMILY & MENTAL HEALTH

1. Recognize a variety of family forms.
2. Demonstrate ways family members can be helpful to each other (sharing, working together, courtesy).
3. Describe ways families change
   - birth
   - loss of family member (death, divorce, etc.)
   - moving
   - adoption - foster care.
4. Discuss how families meet the basic needs of members (protection, food, clothing, love, education, shelter and care).
5. Recognize and label a variety of feelings (anger, sadness, fear, happiness, excitement).
6. Demonstrate a variety of ways to express feelings.
7. Discuss ways positive self-esteem affects our daily lives and ways to enhance one's self-esteem.
8. Identify members of a community and personal support system, and discuss how they can help.
9. Practice ways to ask for help.
10. Describe different kinds of friendship and how friends help each other.
11. Recognize that males and females have similar abilities.

NUTRITION

1. Recognize that food contains substances for growth, energy and health.
2. Sort food into nutrient groups.
3. Discuss the importance of varied food choices.
4. Explain the importance of a nutritious breakfast.
5. Choose nutritious snacks.
6. Explain the relationship of cleanliness and the safety of food handling.
7. Identify the effects of feelings on eating patterns.
8. Identify types of foods and patterns of eating in different cultures geography and seasons.
9. Recognize eating as a social occasion.
10. Name ways each person is responsible for his/her food choices.

PREVENTION OF DISEASE

1. Discuss the concepts of wellness and illness.
2. Recognize some symptoms of illness.
3. Explain concept of germs.
4. Name ways that lifestyle and pollution can affect health.
5. Identify ways a person can stay healthy and prevent the development of disease.
6. Discuss health practices which will hasten recovery from communicable diseases.
7. List important reasons for health checkups and screening procedures.

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HEALTH EDUCATION FRAMEWORK

SAFETY

K-3

1. Give examples of unsafe conditions in the home, the school playground, and the community.
2. Demonstrate proper procedures during home emergencies such as fire, accidents, poisoning.
3. Recognize traffic signs and signals.
4. Identify rules for safe operation and maintenance of bike.
5. Explain responsibility as a school bus passenger.
6. Identify procedures for safe walking.
7. Explain reasons for wearing safety belts and demonstrate their proper use.
8. Identify appropriate support persons and procedures for summoning emergency help.
9. Explain the need for obeying safety rules at home, school, work, and play.
10. Illustrate basic first aid for minor injuries.
11. Identify precautions necessary during special conditions such as bad weather, darkness, Halloween.
12. Recognize why we need rules for interaction with strangers and people we know.
13. Demonstrate and practice assertive strategies.
14. Identify different types of touch.
15. Respect a person's right to privacy.

PERSONAL HEALTH HABITS

1. Describe ways to protect and care for the five senses.
2. Relate personal health care habits to optimum growth and development (including dental care).
3. Discuss the importance of rest, nutrition, exercise, sleep, and recreation on one's well-being.
4. Evaluate one's own daily activities for a balance in exercise, sleep, work and play.
5. Identify stressful situations in one's life and practice ways to relieve stress; e.g., relaxation, exercise.

CONSUMER HEALTH

1. Evaluate the usefulness of words and pictures on food and health product packages.
2. Give examples of ways that advertising influences choices of reliable information about health products and services.
3. List products commonly purchased for health related purposes.

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COMMUNITY HEALTH

1. List a variety of workers in the health field.
2. Describe ways one's health can be affected by the environment.
3. Identify some characteristics of a healthy person, family, and community.
4. Role play some ways to work with others in promoting family and community health.

DRUG & ALCOHOL

1. Identify the effects of alcohol and other drugs on behavior.
2. Identify substances containing alcohol and other commonly used drugs.
3. Identify rules for use of medicines and toxic substances.
4. Recognize the purpose of medicines and drugs.
5. Identify terms commonly used in discussing drugs.
6. Recognize the relationship between accidents and the consumption of alcohol and other drugs.
7. Recognize and experience capabilities.
8. Understand that one's behavior affects others.
9. Recognize different common human feelings.
10. Recognize that everyone is separate, unique and different.
11. Identify personal likes and dislikes.
12. Recognize roles and interactions of families and how families differ.
13. Recognize that others' feelings affect their behavior.
14. Identify and use good talking and listening skills.
15. Recognize and demonstrate appropriate ways to express feelings.
16. Identify the concept of peer pressure.
17. Identify groups of trustworthy adults.
18. Recognize how and why rules are made.
19. Recognize the relationship of values and goals and decisions about substance abuse.
20. Recognize the steps of a problem-solving process.
21. Recognize habits as part of behavior.
22. Identify safe behaviors in situations involving medicine and poisons.

4—6

BODY SRUCTURE& FUNe-TION

1. Recognize the ten major body systems and recognize that they all work together.
   - endocrine
   - nervous
   - skeletal
   - muscular
   - digestive
   - respiratory
   - cardiovascular
   - excretory
   - integumentory (skin)
   - reproductive/sexual

HUMAN GROWTH & Development

1. Discuss a variety of influences such as heredity, environment, and personal health habits which affect growing and developing.
2. Identify the stages of human growth (infancy, early childhood, pre-adolescence, adolescence, early adulthood, adulthood, middle age, old age) and give examples of how different people grow at different rates and on a personalized time schedule. Relate this information to one's own growth pattern.
3. Recognize major physiological differences between males and females and how these change and vary with age.
4. Demonstrate a knowledge of physical, emotional, and social changes which occur at puberty.
5. Recognize the process of conception, prenatal development and birth.

FAMILY & MENTAL Health

1. Name ways all individuals and families change and grow.
2. Role play ways to communicate and get along with friends and family.
3. Tell how the needs of individual family members affect the living patterns of the family group.
4. Discuss how people's expectations for increased independence and responsibilities affect all family members.
5. Analyze the variety of roles played by family members in meeting basic family needs.
6. Evaluate the effects of sex role expectations and stereotypes on family and peer relationships.
7. Discuss personal attitudes and habits and list ways they determine, in part, how we feel about ourselves and how others feel about us.
8. Recognize that persons sometimes need help in dealing with emotions. Name some places and persons from which to receive help.
9. Identify important qualities in a friend.
10. Explore ways to cope with negative messages about self.
11. Explain how one's personal behavior can affect the behavior and feelings of others.
12. Identify how others can affect one's decisions.
13. Use a decision making model to demonstrate ways to solve personal dilemmas.

NUTRITION

1. Describe the function of the major nutrients and list primary food sources for each.
2. Recognize why a variety of foods is necessary daily.
3. Discuss how all people need the same nutrients but amounts vary for each individual throughout the lifecycle.
4. Analyze one's own diet for nutrients, variety and desires.
5. Devise some ways to try new foods.
6. Interpret the physical and mental consequences of a poorly balanced diet.
7. Describe some of the reasons why people eat; e.g., nutritional needs, appetite, social pressures, habits, advertising.
8. Identify proper methods of food preparation and storage.
9. Identify some factors determining food choices.
10. Name some eating disorders that effect health adversely; e.g., anorexia, overeating.

PREVENTION OF DISEASE

1. List a wide variety of diseases and label according to chronic, communicable, hereditary, how controlled, life threatening, etc.
2. Relate immunizations to the diseases they prevent or control.
3. Identify various sources and means of transmission of diseases.
4. Describe the relationships of human behavior and lifestyle to disease prevention including communicable and chronic diseases.
5. Cite examples of the physical, social, and mental effects of disease upon individuals, families, communities and countries.
6. Classify environmental factors that may cause disease and disorders.
7. Identify scientific contributions that have been made to help protect people from diseases.
8. Recognize ways the body fights disease, including natural immunity.
9. Identify personal family history as possible factors for disease; (i.e. some diseases may be genetic or ethnic related).
10. Demonstrate a knowledge of the ways diseases are traced to their source in order to be treated and/or prevented.

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4-6

SAFETY

1. Identify potentially hazardous situations in the home, school and community and recommend ways to alleviate these situations.
2. Identify personal responsibilities for reducing hazards and preventing accidents.
3. Exhibit a concern for others' safety when in a group.
4. Identify risk-taking behavior.
5. Describe the need for safety laws, rules and regulations.
6. List procedures to follow for emergency situations.
7. State the meaning of common highway and street signs and signals.
8. Discuss facts and fallacies of safety-belt usage.
9. Demonstrate safe procedures as a school bus passenger and as a pedestrian.
10. Describe the procedures commonly used when caring for minor injuries and recognize those minor injuries that require additional attention from a responsible adult.
11. Identify one's personal support system.
12. Discuss ways to be a part of another person's support system.
13. Identify rules for interactions with strangers and people we know.
14. Demonstrate and practice assertive strategies.
15. Define personal boundaries.
16. Identify different types of touch.
17. Discuss ways to identify, respond to and/or prevent sexual abuse.

PERSONAL HEALTH HABITS

1. Explain how personal health behavior is influenced by that of peers and family members.
2. Recognize basic health practices which influence physical appearance.
3. Evaluate and summarize the relationships of physical fitness to sound body function.
4. Analyze the relationship between what is put into the body and fitness.
5. Demonstrate and practice non-chemical ways to relieve stress; (e.g., relaxation, exercise, etc.).

CONSUMER HEALTH

1. Critically analyze food advertising for facts and fallacies.
2. Demonstrate a knowledge of health product labeling.
3. Identify sales appeals and stereotyping used in media promotion of health products.
4. List sources of reliable information about health products and services.
5. Discuss the advantages and disadvantages of the use of synthetics and chemical additives to food and health products.
6. Discuss ways that emotions, family patterns and values influence the selection and use of health information, products and services.
7. Differentiate between wants and needs in the selection of health products.

COMMUNITY HEALTH

1. Identify the global issues of hunger, food production, supply, and demand.
2. List services provided by community health agencies and organizations.
3. Analyze individual and community responsibilities in the control of environmental problems.
4. Identify causes of environmental pollution, and describe methods for its control.
5. Discuss ways social and environmental factors contribute to good community health.

DRUG & ALCOHOL

1. Recognize the short and long term effects of alcohol and other drugs on an individual.
2. Identify classification systems for alcohol and other drugs.
3. Recognize laws pertaining to alcohol and other drug use.
4. Identify how alcohol and other drugs are marketed and sold.
5. Comprehend the relationship between accidents and alcohol and other drug consumption.
6. Recognize the signs and symtoms of alcohol and other drug misuse, and dependency.
7. Comprehend the terms: use, misuse, abuse, and dependency as applied to alcohol and other common drugs.
8. Recognize personal strengths and areas for improvement.
9. Recognize the concept of responsibility for one's behavior.
10. Identify own and others' feelings.
11. Recognize personal needs and ways to meet these needs.
12. Recognize the effects of alcohol and other drugs use on family interaction.
13. Recognize how groups function and one's changing role in groups.
14. Understand the use of interpersonal skills in talking, listening, assertiveness and conflict resolution.
15. Practice appropriate ways to express feelings.
16. Recognize the role of peer pressure on the use of alcohol and other drugs.
17. Recognize the major pressures to use alcohol and other drugs.
18. Identify groups of trustworthy peers.
19. Recognize the need for laws regarding alcohol and other drugs and their limits.
20. Identify sources of stress and the beneficial and harmful effects of stress.
21. Understand values and goals as they pertain to decisions regarding substance use.
22. Describe the application of a problem-solving process as a non-chemical method of dealing with personal problems.
23. Recognize how and why people use drugs.
24. Recognize ways to refuse alcohol and other drugs.

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The purpose of this framework is to establish some general parameters for a health education scope and sequence with emphasis on the K-12 development of concepts, skills and content. It is intended to be used by local educators involved in health education curriculum development and revision.

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The Comprehensive Health Education Framework was developed as an integrated plan. No one strand is designed to stand alone but rather to be used in conjunction with the other strands. The concepts and skills listed below are the underlying basis for all strands at every grade level. Using this framework as a guide educators could develop a curriculum based on these learner outcomes and could design lessons that would incorporate the overall concepts and skills. The objectives for Drug and Alcohol are taken from the VT Curriculum Plan developed for compliance with Act 51.

Concepts

1. Whole person concept
   self-awareness
   physical
   emotional
   social
   mental
   spiritual
2. Importance of self esteem
3. Responsibility for personal well-being
4. Responsibility to others
5. Necessity of an accurate base of information

Skills

1. Decision making
   gather information
   explore alternatives predict consequences
   act on the decision
   evaluate the results
2. Communication skills
3. Examination of values and attitudes
4. Location and evaluation of health related information
5. Practical application of information
6. Interpersonal skills
7. Coping skills

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Framework
for the Development of a
Health Education
Scope and Sequence.

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7—8

BODY STRUCTURE & FUNCTION	HUMAN GROWTH & DEVELOPMENT	FAMILY & MENTAL HEALTH	NUTRITION	PREVENTION OF DISEASE
1. Recognize the structure and function of major body systems. - endocrine - nervous - skeletal - muscular - digestive - respiratory - cardiovascular - excretory - integumentory (skin) -reproductive/sexual 2. Demonstrate an understanding of the interrelationships of the major body systems.	1. Discuss the relationship between heredity, environment, health care and lifestyle to growth and development. 2. Demonstrate a knowledge of the physiological differences between males and females. 3. Describe the stages of the human life cycle and the differences in the growth and development at the various stages. 4. Explain how maturity is multi-dimensional (physical, emotional, social, intellectual and ethical). 5. Discuss how human sexuality is a developing part of self and how that development is related to total well being. 6. Discuss the social impact of death at various stages of human development.	1. Discuss the change in basic needs and how they are met as individuals and families change and grow. 2. Recognize the tasks and skills necessary for parenthood. 3. Discuss the significance of one's family in the development of values, standards, and attitudes. 4. Discuss the emotional stages encountered with changes in the family structure, and explore ways of coping with those changes. 5. Describe the history of changes in our social environment and the impact of those changes on family life. 6. Discuss responsible behavior in social relationships. 7. Recognize the impact of self-esteem on the physical and emotional changes of adolescence. 8. Demonstrate a knowledge of and practice setting realistic personal goals in the areas of family, school, extra curricular, lifetime, etc. 9. Investigate possible career options and the various decisions involved. 10. Discuss the past and current expectations males and females have of each other today and recognize misconceptions. 11. Define dating patterns in the community. 12. Discuss responsibilities friends have for one another. 13. Demonstrate and practice ways to cope with interpersonal conflicts. 14. Give examples of how emotions affect behavior and role play those examples. 15. Discuss suicide and why a person, including a teenager, would consider suicide. 16. Identify resources available to people seeking help for a mental illness including suicide.	1. Plan a one-day menu for oneself based on personal likes and the nutrient content of food. 2. Describe the effects of food on a person's performance and behavior. 3. Show how nutritional decisions can affect body growth and repair, self-respect, and selfesteem. 4. Discuss nutritional factors which may contribute to disease e.g. excess sodium, low fiber, high cholesterol , high fat, etc. 5. Recognize the effects of eating disorders and where to go for help. 6. Explain the relationship of calorie intake and levels of activity to body weight. 7. Evaluate personal food selection according to nutritional requirements of adolescents. 8. Demonstrate an understanding of the information provided on a food label. 9. Identify factors influencing food choices; i.e., advertising, background family tradition, peer influences, habits, and lifestyle. 10. Role play ways to change poor nutritional habits. 11. Discuss societal pressures affecting body image and their impact on dietary choices.	1. Name the major risk factors and major causes of death and disability in the U.S. 2. Discuss the ways people are contributing to disease, especially regarding lifestyle and environmental issues. 3. Describe some physiological, biological, chemical and mechanical means of preventing and controlling disease. 4. Explain the difference between natural and acquired immunity. 5. Compare current and historical means of studying and controlling disease. 6. Describe ways individuals act responsibly to prevent disease.

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HEALTH EDUCATION FRAMEWORK

SAFETY

7-8

1. Evaluate the benefits of safety belts and other safety devices in vehicles and in highway construction.
2. Identify attitudes and behavior conducive to accidents.
3. Compare the legal differences between First Aid and treatment.
4. Demonstrate basic First Aid procedures for common injuries and ways to summon help.
5. Prioritize the procedure to be initiated when confronted with a life threatening situation.
6. Recognize one's own capabilities and limitations when applying accepted procedures to problem situations related to health and safety.
7. Analyze how personal desires and social pressures relate to risk-taking.
8. Cite important rules for safety in sports.
9. List safety equipment necessary when participating in activities that involve danger.
10. Identify public situations where safe behavior can prevent serious mishap; i.e., concerts, sporting events. Discuss appropriate action.
11. Discuss factors which influence decision making in traffic.
12. Demonstrate an understanding of weather safety precautions.
13. Demonstrate assertive responses to sexual situations.
14. Demonstrate ways to be a positive support for someone who is dealing with a personal safety issue.

PERSONAL HEALTH HABITS

1. Describe contributions of physical activities to the improvement of muscle tone, cardiovasular fitness, stress relief.
2. Evaluate the importance of developing an interest in lifetime sports.
3. Demonstrate how to measure heart rate and blood pressure.
4. Identify high-risk factors that affect cardiovasular efficiency.
5. Illustrate individual differences and needs for recreation, relaxation, rest, and sleep.
6. Identify factors that contribute to fatigue and suggest ways for coping with it.
7. Discuss the necessity for personal cleanliness considering the changes that occur during puberty.
8. Analyze the interrelationship between appearance, attitudes, and self-esteem.
9. Identify common postural defects and conditions and ways to correct these conditions.
10. Design and practice maintaining a daily plan which allows for a balance in work, play, relaxation, exercise and rest.

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CONSUMER HEALTH

1. Describe the value of having regular medical and dental checks.
2. Identify factors that influence selections and use of health information, products and services.
3. Describe how quakery and faddism can be dangerous to your health.
4. Differentiate between medical diagnosis, self-assessment and self-diagnosis.
5. Demonstrate ways of obtaining accurate information in order to participate effectively in decisions regarding health products and services.
6. Analyze different advertising techniques.
7. Describe various medical, dental and health related areas of specialization.
8. Demonstrate a knowledge of how consumers are protected by laws and regulations related to health products and services.
9. Describe ways foods can be contaminated and what can be done to prevent contamination.

COMMUNITY HEALTH

1. Identify and classify community health services.
2. Demonstrate a knowledge of procedures for locating and utilizing community resources that provide health and social services.
3. Describe some qualities which characterize a healthy community.
4. Develop a plan for a community action process that promotes health.
5. Identify an individual's responsibilities in responding to health regulations:
   - immunizations
   - food handling and storage
   - safety standards
   - effective control of water use and pollution
   - control of substances
   - use of public facilities
6. Discuss ways that individuals and community health agencies cooperate in addressing the needs of special groups: - handicapped persons - senior citizens
   - minorities
   - children
7. Analyze ways social issues (racism, ageism, sexism, war, poverty, hunger) can impact community and personal health.
8. Develop a plan for decreasing pollution in the environment on a local, state, national and international level.

DRUG & ALCOHOL

1. Understand the short and long term effects of alcohol and other drugs on body functions.
2. Understand classifications of drugs and their general effects.
3. Discuss the influence of alcohol and other drugs on risk-taking behavior.
4. Understand the laws pertaining to alcohol and other drug use.
5. Recognize advertising and marketing techniques for alcohol and other drugs.
6. Recognize cultural differences regarding the use of alcohol and other drugs.
7. Identify the effects of alcohol and other drugs on driving skills.
8. Identify medical procedures related to alcohol
9. Identify community treatment resources for alcohol or other drug dependent persons and their families.
10. Understand personal strengths and areas for improvement.
11. Recognize the concept of adulthood and one's own development toward adulthood.
12. Practice enhancing self-concept.
13. Recognize the relationship of self-concept to health.
14. Recognize the influence of the family on decisions to use alcohol and other drugs.
15. Understand use, and evaluate active listening skills.
16. Demonstrate assertiveness with peers when pressured to use alcohol and other drugs.
17. Identify ways to support others in their decisions not to use alcohol and other drugs.
18. Understand the role of peer pressure and its influence on our decision to use or not use alcohol and other drugs.
19. Understand and evaluate the reasons for the misuse of alcohol and other drugs by peers and adults.
20. Practice ways to relieve stress through non-drug involved means.
21. Demonstrate an awareness of personal values and goals as they pertain to decisions regarding substance use.
22. Demonstrate a problem-solving process in situations involving substance abuse.
23. Understand reasons why people use drugs.
24. Demonstrate ways to refuse alcohol and other drugs.

9—12

BODY STRUCTURE & FUNCTION	HUMAN GROWTH & DEVELOPMENT	FAMILY & MENTAL HEALTH	NUTRITION	PREVENTION OF DISEASE
1. Evaluate the factors that influence the functions and structure of the major body systems. - heredity - environment (social and physical) - handicapping conditions - lifestyle - modern technology - medical advances - disease - developmental process - emotions	1. Describe ways in which heredity, environment, and life style modify the patterns and the rate of physical, mental, emotional, and social growth and development. 2. Analyze and discuss the continuum in the stages of human life cycle from birth through death. 3. Describe the positive aspects and problems of aging. 4. Discuss ways to prepare for and cope with death. 5. Explain the processes of conception, prenatal development and birth. 6. Show an awareness of the inherent decisions accompanying these processes (conception, prenatal period and birth). 7. Demonstrate a knowledge of the critical phases of the prenatal period.	1. Demonstrate an understanding of tasks and skills necessary for parenthood. 2. Analyze the way family dynamics change as members mature and age. 3. Identify cause and effect relationships that may disrupt family life; e.g., death, divorce, additional family members, moving, loss of employment, substance abuse, problems with law enforcement, etc. 4. Discuss how the value of the same sex friendships may be compromised by dating patterns. 5. Identify and demonstrate the responsibilities inherent in sexual relationships. 6. Evaluate ways in which sex role stereotypes are continuously being challenged and how family and employers must adjust to changes in sex roles. 7. Discuss the difference between "love", "infatuation", and "sex". 8. Identify the responsibilities and privileges inherent in a marriage or other long term relationship. 9. Apply a decision-making model to interpersonal dilemmas. - male/female expectations - career options - parental expectations - criteria for selecting a life partner - options regarding parenthood 10. Identify positive mental health traits that enable a person to be comfortable with self and others. 11. Recognize symptoms of mental disorders and society's attitudes toward mental health and mental illness. 12. Role play appropriate responses to a mental health crisis, including suicidal indications in another person.	1. Analyze physical, mental emotional, social, and economic factors that affect an individual's diet. 2. Identify how food selection and eating patterns serve social and psychological purposes as well as fulfill physiological needs. 3. Demonstrate ways to assert one's own needs and preferences in food choices. 4. Recognize those circumstances which would require professional nutritional counseling and list resources for counseling. 5. Identify the changing nutritional needs of individuals throughout the life cycle. Develop a sample menu with variations based on age, body size and activity level. 6. Describe ways to gain/lose weight safely. 7. Demonstrate a knowledge of the relationship between nutritional factors and disease; e.g., excess sodium, cholesterol, high fat content and food additives. List sources of sound nutritional information. 8. Make a decision on the nutrient value of foods based upon the analysis of food label information. 9. Compare and contrast the cost of various foods to their nutritional value. 10. Demonstrate knowledge of the effects of food handling, processing and preparation on the nutrient values and safety of food. 11. Develop and practice a meal plan for one's self based on nutrient needs, desires, and food analysis information.	1. Recognize the early symptoms of illness and disease and the importance of early diagnosis and appropriate treatment: e.g., - cancer - cardiovascular disease - sexually transmitted diseases - common childhood illnesses - chemical dependence 2. Identify some of the mental, emotional, and social issues that encourage or discourage disease prevention. 3. Identify the role of genetic conditions or hereditary factors that cause diseases and disorders. 4. Analyze life style and personal health practices as they relate to the prevention of disease. 5. Recognize symptoms of emotional and physical stress, and identify common disorders associated with stress. 6. Analyze why illness is more economical to prevent than to cure. 7. Develop a personal plan for a healthy life style using information about disease prevention and control.

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HEALTH EDUCATION FRAMEWORK

SAFETY

1. Identify factors which are involved in making a home safe for infants.
2. Examine the dynamics of causes and effects of accidents.
3. Demonstrate the appropriate application of Advanced First Aid procedures for major emergencies and life-threatening situations including mouth-to-mouth resuscitation and CPR.
4. Evaluate the availability and accessibility of existing community emergency services.
5. Discuss how personal desires and social pressures relate to risk-taking.
6. Interpret the relationship between psychological factors and the occurence of accidents.
7. Identify those personal factors which influence the safe operation of a vehicle including the importance of the use of safety restraints.
8. Identify ways that human and environmental factors cause accidents.
9. Demonstrate an awareness of how certain jobs and lifestyles involve exposure to risks.
10. Analyze the role of laws and regulations relating to pedestrian, traffic, and transportation safety.
11. Explain why recreational vehicles create unique traffic and environmental hazards.
12. Demonstrate knowledge and application of the rules and safety precautions for personal, recreational and sports interests and activities.
13. Explain how to identify, respond to and prevent sexual abuse, and understand in what types of situations sexual abuse might occur.
14. Demonstrate a knowledge of the cycle of abuse and the importance of intervention to break the cycle.
15. Evaluate interdependence in terms of personal support systems.

PERSONAL HEALTH HABITS

1. Identify ways in which fitness contributes to physical, mental, social, emotional and spiritual health.
2. Design and participate in a program of physical activities that meet individualized needs and that can be adaptable for lifelong needs.
3. Compare and contrast occupational demands to physical needs for rest, relaxation, recreation and sleep.
4. Identify factors associated with stress. Demonstrate appropriate methods of coping with or reducing stress.
5. Distinquish social factors that exert positive and/or negative influences on personal health habits and practice ways to assert individuality.

CONSUMER HEALTH

1. Evaluate reliable sources of health information and services.
2. Identify and show how to utilize various health organizations that serve and protect consumers.
3. Apply valid criteria in the selection of health information, products and services.
4. Analyze and compare specific requirements of various health careers.
5. Analyze health information presented in visual forms including advertising and marketing.
6. Examine the implications of modern medical technology on society and the criteria used in deciding whether to use that technology.
7. Evaluate various health care systems in the U.S., and compare them to those of other countries.
8. Examine the different methods of financing health care and discuss the implications for the present and the future.
9. Discuss health care consumers' ethical and legal rights and responsibilities, and demonstrate ways ethical and legal rights can be exercised.

COMMUNITY HEALTH

1. Evaluate how environmental health problems impact on personal and community health.
2. Analyze the delicate balance between individual rights and the health of the community.
3. Discuss how planning for health care impacts individual and community health resources.
4. Compare and contrast ways in which communities and local, state and federal governments, as well as international organizations, organize to prevent and solve health problems at the local, state, national and international levels.
5. Demonstrate ways to assess community resources and their ability to meet local health needs.
6. Analyze the relationship of cultural and socio-economic factors to the need for and utilization of health resources.
7. Develop and evaluate a personal plan to promote the physical, social, mental, emotional and spiritual health of a community.

DRUG & ALCOHOL

1. Discuss the short and long term effects of alcohol and other drugs on body functions and behavior.
2. Classify alcohol and other drugs according to their effects on body functions.
3. Explain the laws and standards pertaining to use, sale and possession of alcohol and other drugs.
4. Discuss the impact of the marketing of alcohol and other drugs on the use of these substances.
5. Discuss cultural differences in the use of alcohol and other drugs.
6. Evaluate the effects of alcohol and other drugs on driving skills.
7. Identify procedures to help in alcohol and other drug emergencies.
8. Discuss excessive or problem drinking and drug use.
9. Discuss community treatment resources for alcohol or other drug dependent persons and their families.
10. Understand the relationship between the use of alcohol and other drugs and fetal development.
11. Practice assessing strengths and weaknesses.
12. Identify and analyze positive adult role models.
13. Practice enhancing self-concept and thus achievement.
14. Discuss the influence of alcohol and other drugs on risk taking behavior in social and family situations.
15. Understand the skills needed to build close trusting relationships.
16. Understand the role of parenting in prevention of alcohol and other drug abuse.
17. Demonstrate skills in active listening, conflict resolution, and giving and receiving helpful feedback/criticism.
18. Demonstrate the ability to question assertively anyone recommending or prescibing drugs, and ask for alternatives to their use.
19. Demonstrate techniques for supporting others in their decision not to drink or use other drugs.
20. Practice and evaluate alternatives to the use of alcohol and other drugs.
21. Demonstrate practical personal DWI countermeasures that teenagers can employ.
22. Analyze the influence of community values and attitudes on decisions regarding substance abuse.
23. Practice a problem-solving process in situations involving substance use.
24. Discuss how individual responsibility and decisions determine a person's use/misuse/abuse.
25. Practice ways to refuse alcohol and other drugs.

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The Comprehensive Health Education Framework was developed as an integrated plan. No one strand is designed to stand alone but rather to be used in conjunction with the other strands. The concepts and skills listed below are the underlying basis for all strands at every grade level. Using this framework as a guide educators could develop a curriculum based on these learner outcomes and could design lessons that would incorporate the overall concepts and skills. The objectives for Drug and Alcohol are taken from the VT Curriculum Plan developed for compliance with Act 51.

Concepts

1. Whole person concept
   self-awareness
   physical
   emotional
   social
   mental
   spiritual
2. Importance of self esteem
3. Responsibility for personal well-being
4. Responsibility to others
5. Necessity of an accurate base of information

Skills

1. Decision making

   gather information
   explore alternatives predict consequences
   act on the decision
   evaluate the results
2. Communication skills
3. Examination of values and attitudes
4. Location and evaluation of health related information
5. Practical application of information
6. Interpersonal skills
7. Coping skills

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The purpose of this framework is to establish some general parameters for a health education scope and sequence with emphasis on the K-12 development of concepts, skills and content. It is intended to be used by local educators involved in health education curriculum development and revision.

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Framework
for the Development of a
Physical Education
Scope and Sequence

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	PHYSICAL FITNESS	SOCIAL INTERACTION	AFFECTIVE QUALITIES
K—3	1. Identify two benefits of physical fitness. 2. Identify the effects on the body which result from vigorous exercise. 3. Name the four components of health-related fitness: muscular strength and endurance, cardio-respiratory endurance, flexibility, and body composition. 4. Explain the basic meaning of each of the four health-related fitness components. 5. Demonstrate activities which develop each of the four health-related fitness components. 6. Identify the difference between tensed and relaxed muscles. 7. Demonstrate relaxation techniques; e.g., deep rhythmic breathing. 8. Identify people in community /environment who maintain healthy, active lifestyles. 9. Identify the relationship between diet, activity, and fitness. 10. Practice correct body posture. 11. Demonstrate an awareness of personal responsibility for achieving and maintaining physical fitness.	1. Show cooperation with others by: sharing equipment, taking turns, and sharing ideas with a partner. 2. Practice on-task behavior in sma'l groups without direct teacher supervision. 3. Perform the following communication skills: make eye contact when talking to another person and listen quietly without interruption when peers or teachers are talking. 4. Demonstrate support and encouragement of others of different abilities/skill levels. 5. Be a contributing member of a group. 6. Practice making rules and assuming responsibility for following them. 7. Recognize that individual differences in strength, performance and flexibility are not sex related at this age.	1. Engage in activities that promote individual success. 2. Demonstrate a sense of joy and appreciation for movement. 3. Exhibit an enjoyment of physical activity by participating in physical activities outside of class. 4. Identify and practice safe behavior for self and toward others in the play environment.
4—6	1. Define the four components of health-related fitness. 2. Demonstrate activities which develop each of the four health-related fitness components. 3. Assess personal fitness level in each of the four health-related fitness components. 4. Set goals and choose activities to improve and maintain fitness. 5. Explain the importance of stretching as a warm up and cool down activity. 6. Demonstrate stretches for the major muscle groups. 7. Achieve conscious relaxation in most body segments. 8. Identify three factors in one's lifestyle which contribute to fitness. 9. Achieve 50% on health-related or other fitness tests. 10. Identify the value of foods as an energy source.	1. Show cooperation by: supporting and encouraging others of different abilities/skill levels, sharing in decision-making with partners and small groups, showing support for teammates and opponents. 2. Demonstrate an ability to work independently, and assume responsibility for actions. 3. Assume leader/follower roles when appropriate. 4. Play by rules without taking advantage of others. 5. Give examples of fair and unfair play and good and poor sportsmanship. 6. Evaluate competition by the quality of play rather than the outcome. 7. Listen to others without interrupting. 8. Accept referee's decisions without arguing. 9. Recognize that individual differences in strength, performance, and flexibility are not sex-related at this age.	1. Identify personal strengths and weaknesses. 2. Demonstrate self confidence by attempting new activities. 3. Engage in activities which promote individual successes. 4. Demonstrate an enjoyment of physical activity by participating in physical activities outside of class. 5. Practice an attitude of safe behavior toward self and others.
7—8	1. Demonstrate activities which develop the four components of health related fitness. 2. Assess own level of fitness based upon individual needs and formulate and maintain a basic exercise plan. 3. Demonstrate principles of improving fitness; (e.g., frequency, intensity, and duration). 4. Express a positive attitude toward the development and lifelong maintenance of fitness. 5. Demonstrate an understanding and practice proper hygiene as it relates to the effects of exercise. 6. Name some consequences of poor exercise habits. 7. Demonstrate a knowledge of the link between nutrition, exercise, body composition and fitness. 8. List body changes which occur during exercise; i.e., increased heart rate, body temperature, respiration, muscular soreness and perspiration. 9. Demonstrate good posture through proper body alignment. 10. Achieve 50% on a health-related fitness test. 11. Achieve concious relaxation in all major body segments.	1. Participate in positive, group-dynamic behavior. 2. Display respect for self, others, and authority. 3. Show respect for and appreciation of excellence in physical performance. 4. Display trust in self and others. 5. Discuss ways to enhance self-confidence. 6. Practice a socially acceptable sports conduct. 7. Develop a tolerance and respect for individual differences. 8. Contribute effectively to group goal-setting. 9. Demonstrate a knowledge of and respect for body changes which occur in adolescence which may result in sex-related differences in strength, performance, and flexibility. 10. Demonstrate the ability to adjust to others' varying emotional reactions to stress.	1. Select opportunities to participate in physical activities of one's choosing. 2. Practice safety while performing in learning situations, games and leisure play. 3. Recognize personal reactions to stressful situations. 4. Accept personal differences in interest, motivation, and intellectual, physical and performance aptitude. 5. Exhibit verbal and physical expressions of enthusiasm, joy and satisfaction with participation in learning activities and performances. 6. Project a positive attitude to personal skill development and improvement. 7. Demonstrate the ability to participate with self-control and cooperation in directed and non-directed activities. 8. Demonstrate an ability to achieve realistic performance goals. 9. Display a willingness to try new things. 10. Exhibit through participation in physical activities the value of personal fitness and health.

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MOTOR SKILLS

KNOWLEDGE

K-3

1. Demonstrate proficiency in the following fundamental motor skills through individual activities and movement challenges: locomotor skills: (running, walking, and skipping) non-locomotor skills: (bending, stretching, and twisting) manipulative skills: (throwing, catching, and striking).
2. Move appropriately to own and imposed rhythms.
3. Use fundamental motor skills appropriately in movement activities.

1. Participate in activities which involve problem solving and discovering facts, limits, and relationships.
2. Participate in activities which involve variation in movement.
3. Demonstrate a knowledge of body awareness (body parts, the relationship of body parts and potential body movements); space awareness (self and general, direction, pathway levels); and qualities of movement (force, balance, time, and flow).
3. Use movement vocabulary appropriately.
4. Apply movement concepts to fundamental motor skills and simple motor activities (individual and/or small group).
5. Creatively define movement challenges.
6. Identify potential safety hazards in the play environment.

4-6

1. Demonstrate proficiency in sports and dance related skills.
2. Utilize appropriate motor skills in sports and games.
3. Demonstrate proper mechanics for lifting, pushing, and pulling.

1. Apply body awareness and space concepts to sports and dance-related skills and activities.
2. Demonstrate efficiency of movement through applica tion of movement concepts and their relationship to sports and dance-related skills and activities.
3. Discuss and identify in writing the application of above movement concepts to sports and dance-related skills and activities (identify rules and basic strategies when appropriate).
4. Create increasingly complex movement challenges.
5. Develop movement sequences of increasing complexity.
6. Identify potential safety hazards in the play environment.

7-8

1. Refine performance in manipulative skill activities.
2. Expand principles of locomotor, non-locomotor, and manipulative skill development.
3. Participate in individual and team game activities.
4. Participate in leisure/lifetime sport activities.
5. Demonstrate dance and rhythmic movement creatively.
6. Refine complex movement patterns; e.g., routines.
7. Demonstrate ability to participate in aquatic activities and water survival skills (where appropriate).
8. Refine the mechanics of pushing, pulling, and lifting.

1. Demonstrate an understanding of the principles of the psycho-motor, locomotor, non-locomotor and manipulative skills which have been developed.
2. Demonstrate proper care and use of equipment and attire and show how this behavior creates a safe environment for activities.
3. Identify rules and effective strategies for participation in team sports and group games.
4. Recognize and participate in activities which involve analyzing and processing information and responding to a changing environment.
5. Identify verbally and/or in writing potential hazards and safety measures.
6. Identify physical education career opportunities of personal interest.

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9—12

PHYSICAL FITNESS

1. Analyze and improve fitness concepts through sports and activities.
2. Refine and maintain a comprehensive personal fitness plan.
3. Discuss and practice stress reduction techniques for relaxation.
4. Demonstrate activities which develop: - flexibility - agility - strength and muscular endurance - power and speed in movement - balance while performing stationary and movement skills.
5. Display a positive attitude toward physical activity.
6. Identify and correlate the relationship between fitness and personal health for youth and adults.
7. Achieve 50% on a health-related fitness test.

SOCIAL INTERACTION

1. Demonstrate self-direction by displaying self-discipline.
2. Practice socially acceptable sports conduct.
3. Develop leadership skills through instructional activities.
4. Demonstrate trust in self and others.
5. Identify one's abilities as a leader or follower in situtations which require directing, guiding and participating in group activities and tasks.
6. Demonstrate a knowledge of and respect for body changes which occur in adolescence which may result in sex-related differences in strength, performance and flexibility.

AFFECTIVE QUALITIES

1. Exhibit through participation in physical activity the value of personal fitness and health.
2. Identify personal reactions to stressful situations.
3. Recognize and accept personal differences in interest and motivation.
4. Recognize the need to practice safety while performing in learning situations, games, and leisure play.
5. Identify and participate in personally appealing physical activities beyond the classroom.
6. Demonstrate an understanding of the relationship between perseverance and success.
7. Display a willingness to try new activities.
8. Practice ways to enhance self-confidence.
9. Develop personal goals and plan related learning activities.
10. Project a positive attitude to development and refinement of personal skills.

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PHYSICAL EDUCATION FRAMEWORK

9-12

MOTOR SKILLS

1. Refine performance in manipulative skill activities.
2. Participate in individual and team games and sports.
3. Demonstrate ability in locomotor, non-locomotor, and manipulative movement skills.
4. Demonstrate creative dance and rhythmic movement patterns.
5. Demonstrate ability to participate in aquatic activities and water survival skills (where appropriate).
6. Demonstrate ability to perform complex movement patterns.

KNOWLEDGE

1. Demonstrate proficiency in the care and use of equipment.
2. Demonstrate a knowledge of and apply rules and strategies of games and sports in competitive and cooperative settings.
3. Participate in increasingly complex activities which involve analyzing and processing information and responding to a changing environment.
4. Identify verbally and/or in writing potential hazards and safety measures.
5. Identify career possibilities in physical education and related areas.

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The purpose of this framework is to establish some general parameters for a Physical Education scope and sequence with emphasis on the K-12 development of concepts, skills and content. It is intended to be used by local educators involved in Physical Education curriculum development and revision.

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The Physical Education Framework was developed as an integrated plan. Each strand is designed to be used in conjunction with the other strands. The framework provides suggested learner objectives, for each strand, within a broad grade level group.

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PROCESS	STARTING	ANALYSIS OF NEEDS	DESIGN CURRICULUM	IMPLEMENTATION	EVALUATION
LEADERSHIP Assist to clarify the purpose	designate curriculum leader define a variety of leadership styles establish organization for curriculum development process define responsibilities for members of curriculum development team design organizational chart	designate identified leadership tasks for needs analysis as identified per organizational chart supervise/coordinate development and initiation of plans to complete identified tasks facilitate communication between task group and/or leaders	collaborate with appropriate personnel on design features plan and supervise design process disseminate appropriate materials provide appropriate conditions for curriculum development (time, space, resources, etc.)	monitor implementation process monitor participant involvement monitor support systems monitor resource collection and utilization monitor inservice training, staff development, etc. monitor production of materials as designated field test in appropriate location	receive status/completion reports rate curriculum solicit feedback from participants in development evaluate all components of system
PARTICIPANT INVOLVEMENT Communication (Curriculum Committee, Task Force Designer)	identify significant variables or forces in environment, (social, political, historical) identify significant individuals/groups identify participants in process define/communicate roles and levels of involvement develop timelines for task completion establish communications/ monitor network recognize need to develop ownership	reassess/adjust/finalize timeline reassess/adjust/finalize roles in process reassess/adjust/finalize communications/monitor network collect/analyze data (curriculum mapping, goal setting, etc.) identify process used to fulfill duties of each role	establish curriculum format develop timeline specific to curriculum writing process report regularly to involved parties on status of project	implement the new curriculum provide staff development/training to assist in implementation	evaluate staff reaction to curriculum monitor/evaluate implementation process evaluate assessment itself evaluate assessment's results to revise/refine curriculum
SUPPORT SYSTEMS Administration Parents Students State School Board Colleges Special Interest Groups	identify support systems design communications network identify other internal and external resources consider incentives/ ownership issues solicit support	define concerns of support groups define level and nature of support/involvement	involve support systems at level and nature of involvement defined review curriculum plan prior to implementation with a variety of groups modify plans as appropriate prior to implementation	be involved in implementation where appropriate maintain/share as current a data base on implementation as possible	obtain feedback from all possible sources after implementation obtain feedback from all possible sources after formal evaluation obtain formative evaluations from all sources during implementation process
RESOURCES Human Time Research Materials Funds Knowledge of Curriculum Development Process Technical Knowledge Local Knowledge	identify possible resources establish budget begin collection of existing curriculum material, research data, evaluation material, etc.	assign personnel to areas of expertise review research review evaluation material review current curriculum establish bibliography/resource collection	identify resources and materials consistent with or supportive of goals of curriculum reference applicable research, resource materials, etc. to appropriate elements of curriculum develop collection of materials representative of different approaches to appropriate curriculum goals	plan time to implement curriculum purchase/print required materials to implement prepare inservice support	monitor project budget collect and organize data base relative to data collection and use evaluate quality of resources such as inservice training, support from various sources, etc.
STAFF DEVELOPMENT	develop inservice schedule identify and develop incentives plan inservice after researching professional development programs	identify areas of staff expertise identify needs of staff in relation to curriculum development identify needs of staff relative to specific project duties facilitate self-assessment of needs	identify needs through a variety of sources and examine their implications identify objectives of inservice experience and design strategies of implementation develop short and long range methods of assessment design follow-up activities	provide inservice training update staff in goals of curriculum project	evaluate inservice presentation evaluate short and long term classroom outcomes evaluate transfer of skills from inservice training to classroom
PRODUCTS	list of project participants and roles initial list of resources, support personnel, etc. communications file timeline budget organizational chart	report of quantitative data: presentation of perceived needs 1. students 2. teachers 3. parents 4. school boards 5. community report of comparative curricula analysis of community values (belief statements) description of desirable content state standards evaluation of teaching styles and methods analysis of school district policies collection of community socio-economic data collection of student achievement data analysis of research reports synthesis of data 1. desired content 2. values of community 3. state standards	A published curriculum guide 1. philosophy, purpose 2. goals/objectives 3. scope and sequence 4. instructional activities 5. instructional strategies 6. supportive materials 7. evaluation techniques	written observations of teachers documentation of communication among staff record of student progress observation of student behavior/attitudes documentation of community response	assessment of student performance cost-benefit analysis decision to review/revise curriculum evaluation of curriculum supervisors evaluation of teachers evaluation of attitudes/behavior (back to Needs Analysis)

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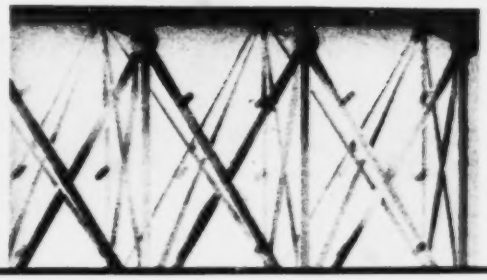

Appendix A

The Frameworks*

as Aids to Curriculum Development

The Frameworks provide *suggestions* for concepts, skills and content to help local educators develop and revise individual course scope and sequence which will meet Public School Approval Standards. The Frameworks allow local educators to determine the grade level at which *suggested* concepts, skills, and content may be incorporated in the scope and sequence.

For example, a K-3 curriculum committee developing a Social Studies curriculum would study the K-3 Framework and decide the specific concepts, skills, and content to be taught for each grade level. The K-3 curriculum committee could decide that the 3rd Grade Social Studies course content should include Community, Rules and Responsibilities, Traditions and Customs, and Interdependence of People and Cultures. They could decide to include the following concepts and skills for the course:

Geography	**History**	**Economics**	**Law & Government**
#6	#5	#1	#1
#10	#9	#2	#5
	#10	#5	#8
			#9
			#11

Sociology	**Anthropology**	**Psychology**
#6	#5	#1
#8	#6	#2
#9	#7	

Having chosen the content, concepts and skills, the K-3 Committee can then develop the sequence for presenting the 3rd Grade content, concepts and skills and teaching strategies to implement them.

The process described above would be used to determine the scope and sequence for kindergarten, 1st Grade, and 2nd Grade.

*Curriculum frameworks appear at the end of this document.

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Appendix B

—— Public School Approval Mandate Concerning Curriculum Development:

"In all curriculum areas and at all levels, both elementary and secondary:

- Instruction follows an explicit written scope and sequence for concepts, skills, and content.
- The school's curriculum is coordinated with sending and receiving schools.
- The school evaluates student performance and uses the results to assist students and revise the curriculum."

—— The responsibility to support curriculum improvement rests with local boards, and the power to develop curriculum resides in the hands of Vermont's educational practitioners – the teachers and administrators of Vermont's school districts. Curriculum development should be a planned and ongoing process, resulting in a systematic program of instruction for all students in all subject areas.

——Statutory Authority: 16 Vermont Statutes Annotated 164 (14), 16 Vermont Statutes Annotated 165.

Appendix C

Needs Assessment

Instruments

I. **Student surveys.** The questions below are typical of those which could be asked of students as part of a needs assessment. Wordings can be changed to adapt the questions for any subject area and any grade level. Primary grade students can be read questions and asked to circle a number that corresponds to the response. Or, a set of statements can be made up which achieve the same results, and students can mark faces to show if they agree or disagree with the statement. These sample questions do not constitute a survey as such. They are presented as items which a committee might use.

1. In this class, we most often do these things: (Specify subject area) (check 3)
   - ___ read books
   - ___ listen to the teacher
   - ___ perform experiments
   - ___ recite orally
   - ___ go on field trips
   - ___ work in the library
   - ___ take tests
   - ___ look at films and filmstrips
   - ___ talk about the book
   - ___ listen to records
   - ___ make maps (graphs, charts, pictures)
   - ___ answer questions
   - ___ construct things
   - ___ do homework

2. In this class, I like to (check 3)
   - ___ read books
   - ___ listen to the teacher
   - ___ perform experiments
   - ___ recite orally
   - ___ go on field trips
   - ___ work in the library
   - ___ take tests
   - ___ look at films and filmstrips
   - ___ talk about the book
   - ___ listen to records
   - ___ make maps (graphs, charts, pictures)
   - ___ answer questions
   - ___ construct things
   - ___ do homework

3. To do well in this class and get a good grade, I have to (check 3)
   - ___ be quiet in class
   - ___ answer questions
   - ___ listen to the teacher
   - ___ ask good questions
   - ___ do my homework
   - ___ work in the library
   - ___ perform experiments
   - ___ work with others
   - ___ do well on tests
   - ___ develop good projects
   - ___ suggest questions and ideas
   - ___ understand the book
   - ___ follow the teacher's directions
   - ___ complete reports

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4. I find the following difficult in this class: (check up to 3)
   - ___ answering questions
   - ___ participating in discussion
   - ___ working alone
   - ___ reading the textbook
   - ___ making maps (or other visuals)
   - ___ taking tests
   - ___ working out projects
   - ___ writing reports
   - ___ working with others
   - ___ thinking of good ideas

5. In this class, I like to work this way best: (check only 1)
   ___ alone ___ in a pair ___ as a small group ___ as a whole class

6. I talk to my parents about this class: (check only 1)
   ___ not at all ___ about once a month ___ about once a week ___ almost every day

7. If I could make one suggestion to my teacher about how to do things differently, I would say:

   _____

8. If I could choose one area to study in this subject, it would be:

   _____

9. The materials we use in this class are:
   ___ excellent ___ very good ___ good ___ fair ___ poor

II. **Teacher surveys.** The rating scale below could be used to check almost any program. There are also some questions that could be used to determine what teachers perceive about the present program and what the future might be. Teacher surveys can include belief statements with which teachers may agree or disagree, in whole or in part.

A. Rating Scale
The following questions have a five point scale. Put a check at the point that reflects your opinion about the present _____ curriculum.

1. Teacher interest in materials	Low	___|___|___|___|___	High
2. Student interest in materials	Low	___|___|___|___|___	High
3. Student participation in class	Limited	___|___|___|___|___	Very active
4. Class atmosphere	Quiet	___|___|___|___|___	Noisy
5. Program content	Inappropriate	___|___|___|___|___	Very appropriate
6. Content includes knowledge at all levels	Only low	___|___|___|___|___	All levels
7. Content includes values	Not at all	___|___|___|___|___	Many levels
8. Skills treatment	Unclear	___|___|___|___|___	Very clear
9. Kinds of questions	Low level	___|___|___|___|___	All levels
10. Who asks questions	Mostly teacher	___|___|___|___|___	Mostly students
11. Curriculum decision-maker	Teacher	___|___|___|___|___	Students
12. Question responses	Short	___|___|___|___|___	Long
13. Student sense of purpose	Hazy	___|___|___|___|___	Defined

14. Teacher's guide — Not useful ____ Very useful
15. Difficulty of materials — Too difficult ____ Too easy
16. Reading level — Too High ____ Too low
17. Supplementary materials — None ____ Abundant
18. Student involvement — None ____ A great deal
19. Teacher's role — Authority ____ Participant
20. Overall program — Ineffective ____ Very effective

B. Possible questions. Each of these to be made specific to the subject area.

1. Which three of the following do you think are important areas for this subject in this district? Rank them from 1 to 3. (Make a list of a variety of areas from the subject area being developed)

2. Which of the following techniques do you think are most important? (check 2)
   - ___ lecture
   - ___ discussion
   - ___ questions
   - ___ research
   - ___ quizzes and tests
   - ___ case studies
   - ___ experiments
   - ___ drill
   - ___ games and simulations
   - ___ inquiry
   - ___ conceptual development
   - ___ independent study
   - ___ valuing
   - ___ creating a model or product
   - ___ community projects
   - ___ other (identify) _____

3. What do you think is the major strength of this subject at your grade level?

   _____

4. What do you think is the major weakness of this subject at your grade level?

   _____

5. What kinds of materials do you use most often to teach this subject?
   - ___ books
   - ___ films
   - ___ filmstrips
   - ___ laboratory equipment
   - ___ chalkboard
   - ___ games and simulations
   - ___ real objects
   - ___ maps and globes
   - ___ models
   - ___ charts and diagrams
   - ___ records and tapes
   - ___ television
   - ___ computers
   - ___ other(specify) _____

6. If you were to make one change in this program at this grade level, what would it be?

   _____

7. How well do you feel this program meets the needs of special students?
   ___ not at all ___ rarely ___ sometimes ___ often ___ very well

8. What type of in-service would be most useful to you in this subject area?

   _____

9. What kinds of equipment do you need to carry out this program?

   _____

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10. What kind of administrative support would be most helpful?

_____

III. **Administrator surveys.** These are some questions which might be used in a needs assessment, adjusted for the particular subject area.

1. Grade levels at your school _____
2. Organizational patterns at your school (self-contained, etc.)

_____

3. Which of the following do you think is most important in this subject area? Rank order these from 1 to 3.
(repeat the items from question 1 of the teacher survey)
4. Which of the following instructional techniques do you think is most important? Choose 2.
(repeat items from question 2 of the teacher survey)
5. Identify two strengths of this subject area in your school.
   1. _____
   2. _____
6. Identify two weaknesses of this subject area in your school.
   1. _____
   2. _____
7. On standardized tests in this area, how do the students in your school perform at each grade level? _____
8. What percentage of your students have special needs?

_____

What types of needs (bilingual, handicapped, highly academically talented, etc.)

_____

9. What one change would you recommend in this program area?

_____

10. What in-service needs does your school have?

_____

11. In what ways could this curriculum be communicated better to the parents?

_____

IV. **Parent surveys.** Some of these questions might be used with parents. The questions that are used in the community, however, are heavily influenced by the nature of the district.

1. What do you perceive as the major goals of education in our schools?

_____

_____

2. What do you see as the strengths of this school system?

_____

3. What do you see as the weaknesses of this school system?

_____

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4. In (subject area), what do you most like about our program?

_____

5. In (subject area), what do you least like about our program?

_____

6. Would you be willing to work with a curriculum committee?
___ Yes ___ No If yes, in which area? _____

7. Following are a series of general statements about school which are being considered for goals in this district. Examine them carefully, and then rank them in order from the one you like best (number 1) to the one you like least (number 10). (Choose statements appropriate for your district. School district must make up its own statements).

From: *A Guide to Curriculum Development: Purposes, Practices and Procedures*, State of Connecticut Board of Education—1981.

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Appendix D

Plan For Inservice

Before planning can begin, needs must be assessed. The primary source of need identification and planning is teachers who are to be involved in the inservice activities. Other sources of information should be used too: test results, administrators' observations, and new laws are a few ideas. The stated needs should be compared to discover implications.

I. Needs Assessment Results

	Source	Stated Need	Implications
A.			
B.			
C.			

The selection of the topic and the determination of the target group are almost simultaneous in many situations. Both are selected after due consideration of the result of the needs assessment as examined in the first step of planning. The target group may be one part of a large group; the topic may be a portion of a larger topic.

II. Topic Selected: _____

III. Target Group: _____

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The selection of activities is based on the specific objectives determined for that inservice experience. The objectives are, in turn, based upon the result of the needs assessment. (Part I)

The four suggested types of objectives speak directly to the types of impact upon participants which is sought. Briefly, those levels include awareness (recognition of nature and/or importance of a content or a process), concepts and organized knowledge (intellectual control of relevant content), principles and skills (tools for action), application and problem solving (transfer of ability to classroom situations).

Not all levels may be necessary for one inservice experience, but for effective change, participants must eventually reach the fourth level (D). The best strategies are those which involve participants actively in a variety of ways.

Information source: "Improving Inservice Training: The Messages of Research" Educational Leadership, Feb. 1980.

IV. Activities

Level of Impact	Strategies
A. Awareness Objective: _____	_____
_____	_____
_____	_____
_____	_____
B. Concepts and Organized Knowledge Objective: _____	_____
_____	_____
_____	_____
_____	_____
C. Principles and Skills Objective: _____	_____
_____	_____
_____	_____
_____	_____
D. Application and Problem-Solving Objectives: _____	_____
_____	_____
_____	_____
_____	_____

_____

_____

Evaluation must be based on specific objectives. The focus of evaluation needs to be directed toward determining whether or not specific objectives (listed in Part IV) have been met. Questioning then should focus not on "How good was the speaker?",but on "What skills and/or content were learned?" Measurements of changes in classroom behaviors of students provide the most direct assessment of the value of inservice.

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V. Evaluation Methods

Objectives	Short-Range Assessment	Long-Range Assessment
A		
B		
C		
D		

Follow-up activities must be based on the results of the various evaluations to ensure continuous effort of a supportive nature to the target group. Remember that inservice education is only one part of the total change process.

VI. Follow-Up Activities

Principles of Effective Inservice

- Participation in the development of a written inservice plan by the individuals who will receive the training. The plan should include needs, goals, objectives and activities appropriate for those individuals.
- Administrative and Board support for long-range planning that fosters participation and confidence in inservice training.
- Identification, collection, and development of all resources that will match the objectives and activities of the inservice plan.
- Continuous, planned follow-up and maintenance of skills that are introduced through inservice activities, so these skills become part of the instruction process.
- Positive and consistent communication through a comprehensive plan, to ensure common understanding on the part of all involved.
- Assessment of the inservice plan and the various inservice activities for the purpose of adjusting the plan as needed.
- Long-range planning that includes the further identification of needs, goals, objectives, and activities.

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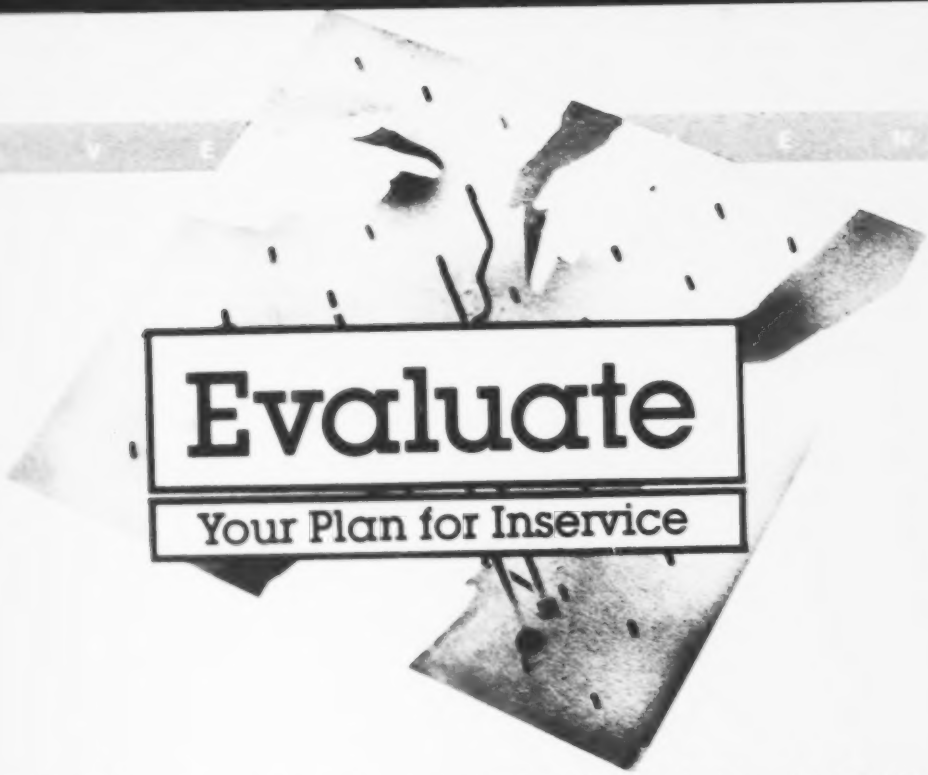

Directions: Place a check beside each characteristic listed below which you have considered in planning inservice. Reconsider your plan in view of those characteristics which you have not checked.

Critical Characteristics of Professional Development Programs

___ Inservice education should be conducted in a supportive climate of trust, peer support, open communication, and staff commitment to a set of clearly understood norms for functioning in an institution (clear roles, program definition, instruction procedures, goals).

___ Inservice education goals should be based upon a common set of expectations held by the participants for normative behaviors that are essential to performing their professional roles in their institution.

___ Successful inservice education requires support from administration and school boards including time, personnel, training materials, and funds to enable the training necessary to implement educational programs in their school district.

___ Decisions concerning the objectives, experiences, and assessment of inservice education should be cooperatively developed by those involved in and affected by the training program.

___ Inservice education should be based upon assessed needs of participants. A need is defined as a gap between the expected professional performance and actual performance in the work setting.

___ Inservice education should model the instructional behaviors desired of participants.

___ Inservice education programs should be demanding and set high but reasonable standards of performance for participants.

___ Inservice education programs should have three major components: (1) attitude, (2) pedagogical skills and (3) substantive knowledge.

___ Inservice education should prepare educators to implement research findings and best practice related to carrying out their job responsibilities.

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___ Inservice education should be decentralized; focus on actual school problems, goals, needs, and plans; and be conducted, whenever feasible, in the school setting.

___ Inservice education should emphasize use of rewards (such as opportunity, increased autonomy, participation in decision making, increased competence, success, and advancement) which have been shown to promote high commitment and performance.

___ Inservice education should be based upon clear, well understood, specific goals and objectives that are congruent with institutional and personal goals.

___ Inservice education should provide options for participants that will accommodate individual professional needs and learning styles (timing, sequence, pace, interests, goals, delivery systems).

___ Inservice education should be experientially based with opportunities to select, adapt, and try out new professional behaviors in real and simulated work settings.

___ Central office personnel and school administrators should support inservice education through their participation in training activities with their peers and subordinates.

___ Inservice education programs should provide for follow-up and "on call" assistance to educators as they use their new skills and understandings in the work setting after they have been trained.

___ Leadership in inservice education programs should be situational and emphasize authority by competence and expertise rather than by position.

___ Evaluation of inservice education should be both formative and summative and should examine the immediate effect on participants, extent of transfer to the work setting, and the effect on achieving institutional goals.

Source: Staff Development/Organization Development, 1981 ASCD Yearbook.

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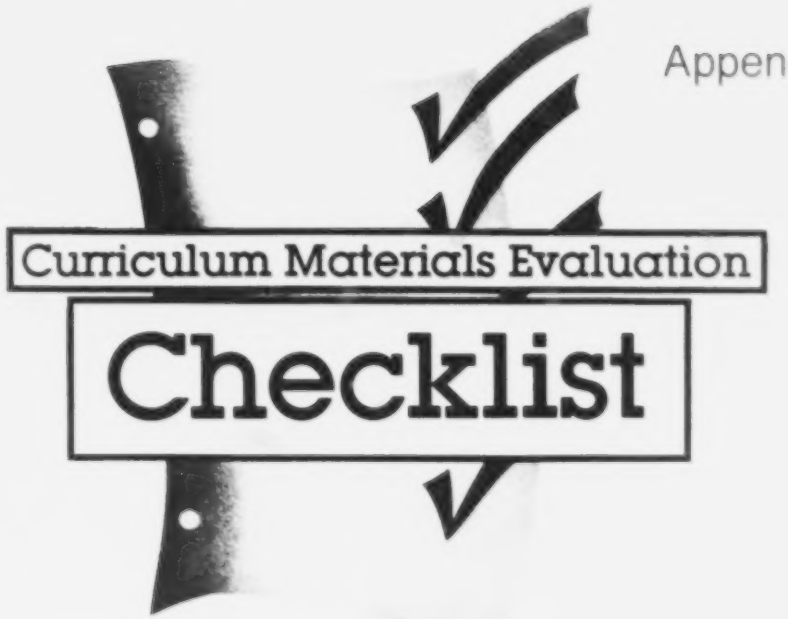
Appendix E



This checklist is one format that can be used by a curriculum committee to analyze the significant characteristics of materials.

Name of Analyst _____ Date _____

Title of Material _____

Publisher _____ Grade Level _____

Copyright _____ New _____ Revision _____ Cost _____

(E) Excellent; (G) Good; (F) Fair; (P) Poor

	E	G	F	P	COMMENTS
SUITABILITY					
a. Conceptual level					
b. Readability level					
CONTENT					
a. Content matches curriculum objectives					
b. Content appropriate for students					
c. Format and organization of content					
d. Topics covered in sufficient depth					
e. Content based on appropriate disciplines					
STRATEGIES					
a. Emphasis on critical thinking and problem-solving					
b. Emphasis on concept mastery					
c. Emphasis on student involvement					
d. Emphasis on developing independent thought					
e. Develops sense of responsibility for learning					
f. Incorporates evaluation alternatives					

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CHARACTERISTICS	E	G	F	P	COMMENTS
a. Table of contents and index					
b. Glossary and definition of terms					
c. Treatment of minorities					
d. Lack of sexual stereotyping					
e. Size of print					
f. Physical features					
g. Number and clarity of charts, maps, diagrams					
h. Number and clarity of illustrations					
SUPPORT MATERIALS					
a. Teacher's guide					
b. Workbooks or masters					
c. Audiovisual components					
d. Test package					
e. Other					
OVERALL RATING					

ADDITIONAL COMMENTS:

Outstanding Characteristics:

Chief Deficiencies: _____

_____

_____

Recommended for Purchase: Yes ____ No ____

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Questions to Consider in Appendix F

Planning to Map

Your Curriculum

Basic Decisions In Curriculum Mapping

1. **What to map?**
   What areas of the curriculum will be mapped?
   How have you determined that these are the proper areas?
   - — Test scores
   - — Opinion/observation
   - — Survey
   - — Other

2. **Level of Specificity of Mapping?**
   How much detail will be included in mapping?
   What are the major considerations involved in selecting the level of detail?
   - — Test data/match to mapping data
   - — Existing curriculum guides level of detail
   - — Length required of teacher response
   - — Mandates
   - — Local decisions
   - — Capability of data collation being automated

3. **How Often Will Mapping Occur?**
   How often will the mapping data be recorded?
   How often will mapping data be collated?
   How will mapping data be reported in a time sequence (daily, weekly, monthly, semesterly, yearly)?

4. **How Will Mapping Data Be Collated?**
   Who will gather the data?
   How will the data be transferred to collation sheets?
   What is the relationship between manual/automation data collation?
   What statistical analyses will be utilized in collation?
   How will the collation analyses be reported?
   Will a special computer software program have to be developed? If so, who will develop it?
   How will it be tested?

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5. **How Will Mapping Data Be Reported/Interpreted?**
   What kinds of interpretation will be provided?
   What are the major questions which must be answered with mapping data?
   What are the boundaries of decision-making with mapping data?
   What will be done with mapping data?

6. **What are the Anticipated Benefits of Mapping?**
   What are the major anticipated benefits of mapping? To whom will the benefits accrue?
   In what ways are students and teachers expected to benefit from mapping?
   In what ways will the system benefit?

7. **What Steps/Policies Must Be Considered Prior to Mapping?**
   What previous exposure has the staff had to mapping?
   How would you assess the climate of school operations at the present time?
   What steps must be taken to ensure a successful experience with mapping?
   What are the anticipated barriers to undertaking mapping? How will they be tackled and resolved prior to the mapping experience? Who will do this?
   What procedures and/or policies must be adopted by the Board or administration to ensure a positive staff response towards the idea of mapping? How will this be done? Who will do it?

8. **What Kinds of Followup Activities/Experiences Are Anticipated After Mapping?**
   What is anticipated as the major types of followup activities after mapping has occurred?
   How will mapping be evaluated? How will it be known if mapping was a success or a failure?
   How will mapping data be utilized to improve pupil achievement?
   How will mapping data be employed to improve the process of curriculum development?
   How would one know if more mapping were necessary after an initial experience with it?
   What are the criteria by which you would know when to change the mapping experience?

9. **What are the Major Costs Expected to Accompany a Mapping Effort?**
   Training/time and staff/consultants
   Development of computer program
   Development of mapping formats
   Data collation (manual and automated)
   Development of final report/recommendations
   Changes in curriculum guides
   Changes in the testing program
   Changes in the evaluation system
   Teacher and administrative time throughout the process
   Other

10. **Anticipated Sources of Funds to Underwrite Mapping Costs**
    Local
    State
    Federal
    Private foundations, solicitations
    Other

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Curriculum Mapping Format

Type: Checklist Format A **Elementary School Curriculum Review Report**

School: _____ District: _____

Teacher's Name: _____ Grade(s)/Subject: _____

Mapping Period: _____

Instructions: Record each day the total minutes spent in each curricular area and non-curricular area. Compute totals in minutes by week for each line. Total vertically by day for curricular area (line 17) and non-curricular each day (line 28). Compute total time per week (line 29). Do not count any activity twice (in more than one category). Total instructional time per day cannot exceed 265 for kindergarten, 265 for grades 1-2, 275 for grade 3, or 310 for grades 4-6. For total maximum time, add non-instructional time for your school.

	Time Distribution (in minutes)					
	MAY					Weekly
Curriculum Area/Topic/Skill/Subject	24	25	26	27	28	Total
1. Reading (formal reading instruction, follow-up)						
2. Spelling						
3. Oral Language						
4. Written Language						
5. Handwriting (formal instruction, drill only)						
6. Mathematics (formal instruction, follow-up)						
7. Science (formal instruction)						
8. Health Education (formal instruction)						
9. Art (formal instruction and follow-up)						
10. Music (formal instruction, listening)						
11. Physical Education (instruction plus play)						
12. Social Studies (history, geography, gov.)						
13. Career Education (non-duplicative time)						
14. Multicultural Education (formal instruction)						
15.						
16.						
17. Total Minutes on All Curricular Areas (lines 1-16)						
18. Attendance						
19. Assemblies						
20. Classroom Discipline						
21. Testing						
22. Collections, Drives						
23. Announcements						
24. Recess						
25. Lunch						
26. Other (Specify)						
27. Total Time on Non-Curricular (18-26)						
28. Total Time Minutes per Day (17 & 27)						
29. Total Time per Week (17 & 27)						

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SAMPLE: SECONDARY SCHOOL MAPPING FORMAT

Type: Checklist by Course

Teacher's Name: _____ Grade: _____ No. of Students: _____

School: _____ Course: **Intro. Phys. Science**

Enter class periods or portions thereof, i.e., .25 - .50 - .75 - 1.00 - 1.25 - etc.

Weekly data gathering (Complete by Friday of each week)
Account for total class time each week
Pupil contact week
Days in week days

Discipline
Clerical/Announcements
Testing
Equipment set-up time (within class period)
Other Activities (Assemblies, field trips, etc.)

STRANDS/OBJECTIVES

1. Follow data collection procedures.
2. Use reference material to gain information.
3. Construct line graph from data.
4. Identify qualitative relationships between variables.
5. Interpret values from a graph.
6. Identify the problem in an investigation.
7. Identify common laboratory equipment.
8. Perform mathematical operations with decimals.
9. Convert values within metric and English systems.
10. Make observations of phenomena.
11. Propose conclusions based on data.
12. Identify sources of error in experiments.
13. Determine mass using a balance.
14. Measure metric dimensions of solid objects.
15. Apply formula V=LxWxH to solid objects.
16. Determine liquid volumes with graduated cylinder.
17. Determine liquid volumes by displacement.
18. Determine density of regularly shaped objects.
19. Determine density of irregularly shaped objects.
20. Classify substances by density.
21. Measure temperature using Celsius thermometer.
22. Measure thermal expansion of solids, gases.

General Criteria for Evaluating Scope/Sequence resulting from Mapping Sheet.

- Does the scope & sequence plan reflect best available knowledge about subject area?

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- Does the mapping include all important factors; is it sufficiently comprehensive?
- Is the plan coordinated from level to level to provide for systematic development of important skills without excessive repetition?
- Is the plan sufficiently responsive to changing needs and interests of students?
- Does the mapping include state basic competencies and state standards?
- Does the mapping respond to student/teacher/parent/ community expectations?
- Is the mapping process easy to understand and implement, and focused on essential learning?
- Is the distribution of skills and concepts by grade level sufficiently balanced?

From: English, Sand, Steffy, & Associates, 141 Asharoken Ave., Northport, Long Island, New York 11768

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Appendix G

Sample

Philosophies

A. Libby Public Schools*
Libby, Montana

Preamble

The School Board shall provide the best possible schools for the students who reside in School District No. 4. This is to be determined by the financial structure of the district in light of intelligent economy and sound educational practices for use and wise expenditures of tax money.

Philosophy

A society educates its young to enrich and fulfill their lives. The school should provide for each child's fullest development mentally, physically, emotionally, socially, and vocationally to enable him/her to evaluate and utilize elements of his/her intellectual heritage that will contribute to his/her personal well-being so that he/she may contribute to humankind's well-being.

The educational process is most successful when it provides an environment where the student feels he/she is appropriating learning for himself/herself, making progress toward goals and enjoying the process.

Education requires changes of student behavior, which are affected as much by the organization of the school and student-teacher relationships as they are by subject matter mastered. Students learn best when they experience accomplishment in the content of their own ability.

Students need training in social responsibility. Students must learn to think, act and feel with responsible freedom. They can be helped to identify themselves by relating and reacting to teachers and to the cultural environment.

To educate students fully, the school must develop their basic abilities to participate in society, must explore skills they may later develop to become productive, and must consider problems they are likely to encounter as an adult. A teacher should be free to chart his/her own course to accomplish these goals. Variations in subject matter, student aptitude and attitude, and the teacher's skills should determine methods that will encourage students' accomplishments while enhancing their personal dignity. The quality of education is more directly related to no other single factor than to the teacher - his/her personality, integrity, command of the subject matter and his/her ability to inspire learning.

Students whose school achievements engender an enjoyment of learning ensure that their educational process will be unending. School experiences are capable of producing or broadening a student's lasting pleasure in creativity, inquisitiveness about the world around them, ease in relationships with others, self-confidence and self-direction.

*Adapted from Libby Public Schools, Libby, Montana

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B. Naugatuck Public Schools
Naugatuck, Connecticut

The public school is one of the most important forces in America devoted to the total development of human potential. An efficient and effective learning program involving the transmission and utilization of knowledge, skills and attitudes will enable students to develop their potentials as individuals and to make a useful contribution as members of society.

To accept a realistic evaluation of themselves, their ambitions and their environment, students are encouraged and directed to study and research independently, think logically and communicate ideas meaningfully. Students are guided in their interpretation of the modern world through an appreciation of their democratic heritage so they may be discerning in their choice of competent leadership and become intelligent participants in their communities and vocations. Moral, ethical and aesthetic values are exemplified as indispensable guides to richer and more rewarding living. Fundamental to this process is the conviction that every student must be regarded as an individual worthy of our sincere interest, respect and best efforts.

Practices and Procedures to Attain Our Objectives:

1. The selection and retention of a well-trained, well-informed professional faculty and staff of paraprofessionals and lay personnel who are aware of students' needs and problems, and who are themselves motivated toward continuing professional growth.
2. A required program of study and school-directed experiences for all students developed though school and community participation which properly emphasizes the fundamental and broader aspects of a sound education.
3. The provision of varying levels of challenge in basic subject matter fields so that students may be motivated to work successfully at the achievement level of their ability.
4. A flexible curriculum from Kindergarten through Grade 12, which will provide each student with a sound education, based upon a recognition of his/her individual abilities, needs and goals.
5. A total guidance program for all students at all levels which, through counseling and testing, helps our students adjust to their environment, develop their potentials and utilize their interests and abilities in relation to their personal needs and goals.
6. The preparation, development and encouragement of all students to become independent self-directed learners participating in independent study and research, utilizing all communications media, with emphasis on stimulation and guidance of self-paced learning, this all leading to the emergence of individual citizens who are capable of thinking critically, making sound judgments, and becoming productive and effective members of a democratic society.
7. A program of enriching experiences, both co-curricular and extra-curricular, to aid the students in personal, physical, mental and social development, as well as to guide them in the wise use of leisure time.
8. Since the school reflects the needs, values, strengths, and aspirations of the community, it follows that the school and the home should work together to further develop those personal characteristics which will lead to a better individual and community life for all its citizens. Therefore, a continuing dialogue between community, home, and school should be maintained to the end that all of the children of all of the people will be provided the opportunity to develop, thoughtfully assess, and appropriately adjust to, the needs of a changing society.

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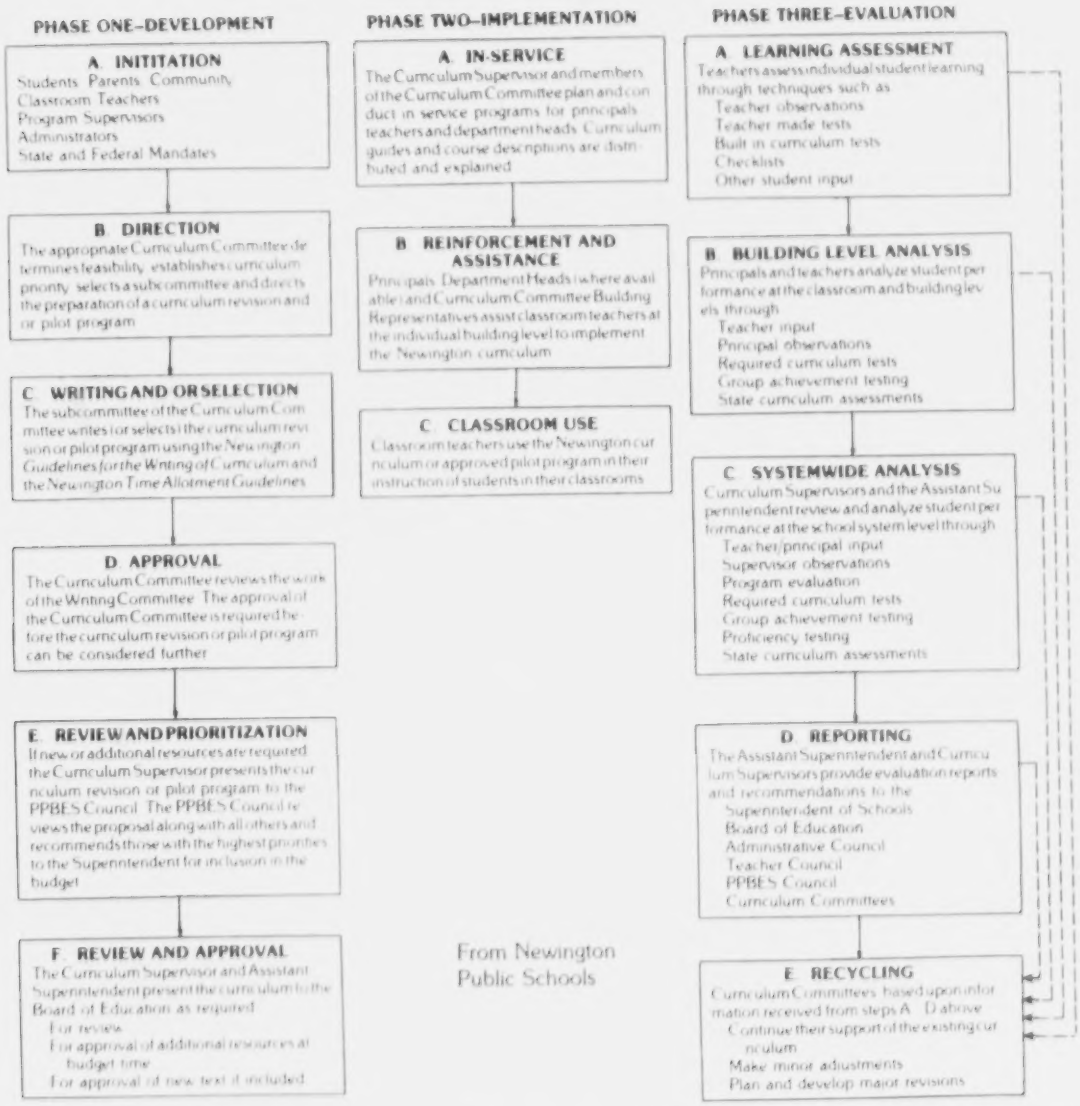
Appendix H

Systemwide Organization for

Curriculum Development


PHASE ONE–DEVELOPMENT
A. INITITATION
Students Parents Community
Classroom Teachers
Program Supervisors
Administrators
State and Federal Mandates
B. DIRECTION
The appropriate Curriculum Committee determines feasibility, establishes curriculum priority, selects a subcommittee and directs the preparation of a curriculum revision and or pilot program
C. WRITING AND OR SELECTION
The subcommittee of the Curriculum Committee writes or selects the curriculum revision or pilot program using the Newington Guidelines for the Writing of Curriculum and the Newington Time Allotment Guidelines
D. APPROVAL
The Curriculum Committee reviews the work of the Writing Committee. The approval of the Curriculum Committee is required before the curriculum revision or pilot program can be considered further
E. REVIEW AND PRIORITIZATION
If new or additional resources are required the Curriculum Supervisor presents the curriculum revision or pilot program to the PPBES Council. The PPBES Council reviews the proposal along with all others and recommends those with the highest priorities to the Superintendent for inclusion in the budget
F. REVIEW AND APPROVAL
The Curriculum Supervisor and Assistant Superintendent present the curriculum to the Board of Education as required
For review
For approval of additional resources at budget time
For approval of new text if included
PHASE TWO–IMPLEMENTATION
A. IN-SERVICE
The Curriculum Supervisor and members of the Curriculum Committee plan and conduct in service programs for principals teachers and department heads. Curriculum guides and course descriptions are distributed and explained
B. REINFORCEMENT AND ASSISTANCE
Principals Department Heads (where available) and Curriculum Committee Building Representatives assist classroom teachers at the individual building level to implement the Newington curriculum
C. CLASSROOM USE
Classroom teachers use the Newington curriculum or approved pilot program in their instruction of students in their classrooms
PHASE THREE–EVALUATION
A. LEARNING ASSESSMENT
Teachers assess individual student learning through techniques such as
Teacher observations
Teacher made tests
Built in curriculum tests
Checklists
Other student input
B. BUILDING LEVEL ANALYSIS
Principals and teachers analyze student performance at the classroom and building levels through
Teacher input
Principal observations
Required curriculum tests
Group achievement testing
State curriculum assessments
C. SYSTEMWIDE ANALYSIS
Curriculum Supervisors and the Assistant Superintendent review and analyze student performance at the school system level through
Teacher/principal input
Supervisor observations
Program evaluation
Required curriculum tests
Group achievement testing
Proficiency testing
State curriculum assessments
D. REPORTING
The Assistant Superintendent and Curriculum Supervisors provide evaluation reports and recommendations to the
Superintendent of Schools
Board of Education
Administrative Council
Teacher Council
PPBES Council
Curriculum Committees
E. RECYCLING
Curriculum Committees based upon information received from steps A - D above
Continue their support of the existing curriculum
Make minor adjustments
Plan and develop major revisions

From Newington Public Schools

From: *A Guide to Curriculum Development: Purposes, Practices and Procedures*. State of Connecticut Board of Education—1981.

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Appendix I

Master Schedule for

Curriculum Development

Sample—A Partial Listing

The following is a hypothetical schedule for curriculum development. Note that the cycle presented calls for review, revision and writing, piloting, implementation and evaluation phases of each of the subject areas. Moreover, staff training is presented as an integral aspect of the piloting and implementation phases.

Subject	Latest Evaluation/ Review	85-86	86-87	87-88	88-89	89-90	90-91
Mathematics	85-84					Review Revise K-12	Pilot Staff Training K-12
Language Arts	80-81 K-3	K-3 Review Revise	K-3 Pilot Staff Training	K-3 Implement Staff Training	K-3 Implement Staff Training	K-3 Evaluate	K-3 Review Revise
	80-81 4-6	4-6 Review	4-6 Revise	4-6 Pilot Implement Staff Training	4-6 Implement Staff Training	4-6 Evaluate	4-6 Review Revise
	81-82 7-12		7-12 Review Revise	7-12 Pilot Staff Training	7-12 Implement Staff Training	7-12 Implement Staff Training	7-12 Evaluate
Foreign Languages	81-82 All 7-12 languages except the major offering			7-12 Review Revise	7-12 Pilot Implement Staff Training	7-12 Implement Staff Training	7-12 Implement Staff Training
	82-83 4-12 The major language offering				4-12 Review Revise	4-12 Pilot Staff Training	4-12 Implement Staff Training
Health and Safety	Not done in past 10 years	K-12 Review and write curriculum	K-12 Pilot Staff Training	K-12 Implement Staff Training	K-12 Implement Staff Training	K-12 Implement Staff Training	K-12 Evaluate

Adapted from: *A Guide to Curriculum Development: Purposes, Practices & Procedures*. State of Connecticut Board of Education—1981.

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RESOURCES

National Professional Organizations

American Alliance for Health, Physical Education, Recreation and Dance, 1900 Association Dr., Reston, VA 22091 (703) 476-3400.

American Association for Counseling and Development, 5999 Stevenson Ave., Alexandria, VA 22304 (703) 823-9800.

American Council on the Teaching of Foreign Languages, 579 Broadway, Hastings-On-Hudson, NY 10706 (914) 478-2011.

American Home Economics Association, 2010 Massachusetts Ave., Washington, D.C. 20036 (202) 862-8300.

American Industrial Arts Association, 1914 Association Dr., Reston, VA 22091 (703) 860-2100.

American Library Association, 50 East Huron St., Chicago, IL 60611 (312) 944-6780.

American Theater Association, 1010 Wisconsin Ave., N.W., Washington D.C. 20007 (202) 342-7530.

American Vocational Association, 2020 North Fourteenth St., Arlington, VA 22201 (703) 522-6121.

Association for Educational Communications and Technology, 1126 16th St., N.W., Washington, D.C. 20036 (202) 466-4780.

Association for Supervision and Curriculum Development, 125 N. West St., Alexandria, VA 22314 (703) 549-9110.

Council for Exceptional Children, 1920 Association Dr., Reston, VA 22091 (703) 620-3660.

Home Economics Education Association, 1201 16th St. N.W., Washington, D.C. 20036 (202) 822-7844.

International Listening Association, 25 Robb Farm Rd., St. Paul, MN 55110 (612) 483-5707.

International Reading Association, 800 Barksdale Rd., P.O. Box 8139, Newark, DE 19714 (302) 731-1600.

Marketing and Distributive Education Association, 1908 Association Dr., Reston, VA 22091 (703) 476-4299.

Music Educators National Conference, 1902 Association Dr., Reston, VA 22091 (703) 860-4000.

National Art Education Association, 1916 Association Dr., Reston, VA 22091 (703) 860-4000.

National Association of Elementary School Principals, 1615 Duke St., Alexandria, VA 22314 (703) 684-3345.

National Association of Secondary School Principals, 1904 Association Dr., Reston, VA 22091 (703) 860-0200.

National Association of Vocational Education Special Needs Personnel, Reschini House, Indiana University of Pennsylvania, Indiana, PA 15705 (412) 357-4434.

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National Business Education Association, 1914 Association Dr., Reston, VA 22091 (703) 860-8300.

National Council for the Social Studies, 3501 Newark St., N.W., Washington, D.C. 20016 (202) 966-7840.

National Council of Teachers of English, 1111 Kenyon Rd., Urbana, IL 61801 (217) 328-3870.

National Council of Teachers of Mathematics, 1906 Association Dr., Reston, VA 22091 (703) 620-9840.

National Education Association, 1201 16th St., N.W., Washington, D.C. 20036 (202) 833-4000.

National Science Teachers' Association, 1742 Connecticut Ave., N.W., Washington, D.C. 20009 (202) 328-5800.

National Vocational Agricultural Teachers' Association, 5600 N. Vernon Memorial Way, P.O. Box 15051, Alexandria, VA 22309 (703) 780-1862.

Speech Communication Association, 5105 Backlick Rd., No. E, Annandale, VA 22003 (703) 750-0534.

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